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Volume 8, Number 4

April
1961

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in any emetic situation

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Note: There are no known contraindications or special precautions to be taken with Tigan therapy. Because Tigan has no sedative or tranquilizer properties, it is **not** necessary for patients to refrain from operating an automobile or other mechanical equipment while on Tigan medication.

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References: 1. W. Schallek, G. A. Heise, F. E. Keith and R. E. Baydon, **J. Pharmacol. & Exper. Therap.**, **126**:270, 1959. 2. O. C. Brandman, paper read at Colloquium on the Pharmacological and Clinical Aspects of Tigan, New York City, May 15, 1959. 3. I. Rosett, W. P. Abrams, J. Kaufman, L. Goldman and A. Bernstein, **J. Newark Beth Israel Hosp.**, **9**:189, 1958. 4. W. P. Abrams, I. Rosett, J. Kaufman, L. M. Goldman and A. Bernstein, **New York J. Med.**, **59**:4317, 1959. 5. O. Brandman, **Gastroenterology**, **38**:777, 1960.

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Emotional Problems in Children

JAMES M. NORTHINGTON, M.D., *Editor-in-Chief*

►*As part of an international quiz, almost 100,000 children were asked to give 10 rules of what they would like their parents to do and not to do. Their answers reveal that they want parents to be honest with them, to be constant in their mood and affection, and to welcome their children's friends in their home.*◄

During a period of three years almost 100,000 children in America (North, Central and South), Australia, India, and 12 European countries took part in an international mass quiz of under-14 children. Boys and girls between the ages of eight and 14 were asked to write down 10 rules of what they would like their parents to do and not to do. The rules most often in the children's answers came from all countries, and were as follows:

1. Do not quarrel in front of your children.
2. Treat all your children with equal affection.
3. Never lie to a child.
4. There must be mutual tolerance between parents.
5. There should be comradeship between parents and children.
6. Treat your children's friends as welcome visitors in your home.
7. Always answer children's questions.
8. Don't blame or punish your child in the presence of others.
9. Concentrate on your child's good points, not on his failings.
10. Be constant in your affection and in your mood.

Parents should be prepared for the new responsibility that will soon arrive, should be told what to expect, and encouraged to seek aid early rather than take too much responsibility upon themselves.

If the child is very small and is growing slowly he should be reminded that precious things come in small packages. If the baby is slow in development but shows no evidence of disease or birth trauma, the parents should be assured that by school age the chances are the child will be

well up to the average. As he grows older, the parents should let him live the life of a child, not that of a young grown-up. Parents should not bring the child a gift every time they leave home and return. Children should not be with their parents or other grown-ups every minute of the day. Instead of making mudpies, flying kites, and playing hide-and-seek, too many children today sit over the radio or T.V. Programs should be few and wisely selected, not about murders and of the shoot-em-up type.

At an early age their parents should leave them on occasion so that they will not be upset by being left as they grow older. Parents should not try to slip away. Parents should take time to see that they are properly understood.

Our adolescents and young grown-ups are mostly adequately adjusted, but it is a question whether on account of their parents or in spite of their parents. A recent writer on juvenile delinquency listed three D's as the chief causes. The first was "Doting Parents." Some parents are afraid to discipline their children. At a christening, Robert E. Lee said, "Teach him to deny himself." Bruce Catton, Pulitzer Prize historian said, "Learn to say 'no'." He also said, "We don't emphasize self denial either for our children or for ourselves; instead we concentrate on our wants. We have the notion that the world owes us all manner of things . . . Self discipline is a bore; as a result, we are perilously close to winning fame as a land of spoiled children and discontented adults." Proverbs 13:24 reads, "He who spares the rod hates his son, but he who loves him is diligent to discipline him."◄

From Kennedy, Hughes, Jr., *J.M.A. Alabama*, 30:200-207,1960.

Occult Fractures of the Cervical Spine: Roentgenologic Diagnosis and Clinical Significance

MARTIN S. ABEL, M.D.,* *San Francisco, California*

►*These fractures are usually demonstrable on special views, particularly an antero-posterior view angled 30° caudad, for evidence on the state of the lower cervical spine, and a modified occipito-submental view for C1 and the upper cervical vertebrae. Symptoms of such lesions vary greatly.*◄

Smaller bony elements of the cervical vertebrae are quite vulnerable to trauma. It was demonstrated in cadavers that a small force is all that is required to produce fractures of the interarticular isthmi of the lower cervical vertebrae, the transverse processes of C1, and the components of the joints of Luschka.[1,2] The critical factor is not so much the amount of force, as its direction. Most effective in the production of these injuries in the cadavers were unilateral, oblique hyperextension and hyperflexion forces.

*Clinical Instructor in Radiology, Stanford Medical School.

1. Abel, M. S., & Wagner, R. F., A.M.A. Scientific Exhibits 1957, Grune and Stratton, New York, 1957, p. 287.
2. Abel, M. S., *Clin. Orthop.*, 12:189,1958.

Special Views Required

In demonstrating these small fractures, the routine antero-posterior and lateral views, even oblique views of the cervical spine, are of little value. The articular processes are either superimposed on other structures or foreshortened in all these views. The transverse processes of C1 are hidden by the skull, and since the lines of fracture in this area ordinarily occur in the sagittal plane they are not appreciated on the open-mouth view. Other views were therefore devised or adapted to visualize these areas. For the lower apophyseal joints an antero-posterior view angled 30° caudad

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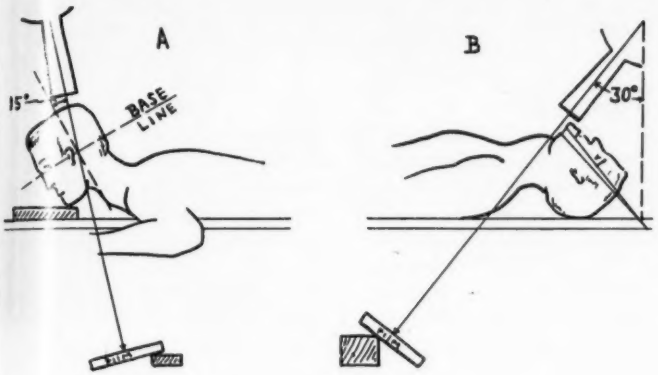

FIGURE 1

A, positioning for the occipitosubmental view of C1 and the upper cervical vertebrae *en face*. B, positioning for the anteroposterior view angled 30 degrees caudad for visualization of the lateral masses, facets, and laminas of the lower cervical vertebrae. Note: The diagrams for both these positions show the positioning for the fine focal spot short distance magnification technique preferred. Standard distances and techniques may be employed. The angles shown are optimal in most cases but may have to be altered in individual instances.

shows the lower articular processes and laminae well and symmetrically. In fact, for these structures this is a true anteroposterior projection. For the C1 area a modified occipito-submental view produces an excellent *en face* view showing the entire ring and transverse processes of C1. For best visualization of the joints of Luschka, an antero-posterior view angled 25° cephalad is recommended. Techniques for demonstrating fractures are shown in Figure 1.

Symptoms and Signs Not Characteristic

The trauma used experimentally to produce fractures in cadavers was calculated to be of the same magnitude and direction as that experienced by automobile collision victims with moderately severe "whiplash" injuries. All three types of fracture produced in cadavers have been found rather frequently[3] as a result of these moderately severe injuries. The clinical pic-

3. Kulawski, J., *Clin. Med.*, 6:1613-1619,1959.

ture is often non-specific and difficult to correlate with the osseous lesion.[4] When present, point tenderness, unilateral trapezius muscle spasm, and postero-lateral shoulder radiation of pain is fairly specific in fractures of the lower articular processes. Point tenderness is best searched for anteriorly, palpating the lateral masses from behind the sterno-cleido-mastoid muscles. The trapezius pain is frequently referred to the area of the lower para-spinal attachments of the muscle.

Characteristic of C1 lesions in some cases is radiation of occipital pain anteriorly over the eyes. Vertigo and double vision may also be present. These symptoms are sometimes noted to be an accompaniment of rotation of C1 partially off the occipital condyles, even when unaccompanied by fracture. Fractures of the joints of Luschka have been rather rare, but in those seen, audible crepitus has been a feature.

Vagueness of Picture Makes Diagnosis Difficult

The clinical pictures are seldom clear-cut, and on a statistical basis there is much overlapping of symptoms experienced by patients with and without fracture. Many have x-ray evidence of well healed fractures, but had no clinical complaints, and a history of trauma is often not easily elicited. Moreover, many patients with well substantiated evidence of recent fracture have few if any symptoms. An occasional patient becomes markedly symptomatic years after a relatively asymptomatic traumatic experience. The results of proper diagnosis and treatment are dramatic, and make exhaustive x-ray procedures very much worth while.

Effort to Clarify the Confused Clinical Situation

Some 40 cadaver necks were radiographed and subsequently dissected. About 30% showed evidence of one or more small fractures of the types discussed. In many cases hypertrophic changes in the postero-lateral joints and processes appeared focused at levels at and about the site of previous fracture. Radiographic evidence was confirmed by gross and microscopic anatomic study and by microradiography.[5,6]

A survey of the lower cervical articular processes was made in some 1100 subjects from a selection of chest x-rays. The results, as shown in Table 1, are rather surprising. First, the lesions are not congenital, none having oc-

4. Wagner, R. F., & Abel, M. S., *Clin. Orthop.*, 16:235,1960.

5. Abel, M. S., *Am. J. Surg.*, 97:530,1959.
6. Abel, M. S., *Arch. Phys. Med.*, 40:371,1959.

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TABLE 1

SURVEY OF LOWER CERVICAL SPINE FROM X-RAY FILMS OF CHEST

AGE GROUP (YEARS)	NUMBER OF CASES	ABNORMAL	
		No.	PER CENT
0-1	18	0	0
1-20	203	17	8.4
21-40	418	46	11.0
41-60	296	61	20.6
61 and over	139	57	41.0

curred under the age of one year. Lesions begin occurring at an early age and become very frequent in the older groups. The occurrence in subjects under age 20 indicates that the changes are not part of what is ordinarily considered the normal aging process. Evidence is strong from this table alone that we are dealing with traumatic changes.

Discussion

That fractures of the smaller elements of the cervical spine occur with considerable frequency is beyond doubt. However, sequelae, and even the symptoms at the time of injury, are mild in many cases. A majority of cases in the survey series were asymptomatic.

Trauma used to produce these lesions experimentally was oblique hyperextension and hyperflexion, the same type of injury often experienced in moderately severe rear-end automobile collisions. The majority of patients had not had this type of injury, and often had difficulty recalling any antecedent traumatic incident.

Probably in the majority of cases, this type of injury is relatively or entirely asymptomatic and results from little more than everyday trauma, e.g., falls, football injuries, or clumsy dives. The lesions were so prevalent and the history so often forgotten that it was impossible to obtain an adequate control series of cases on the basis of a causal history. Others suffer long months of pain and disability. The syndrome is ill-defined, the symptoms far from pathognomonic, but none-the-less real.

An Old, Old Story

Some[7,8] have reported that a

7. Gotten, N., *J.A.M.A.*, 162:865,1956.
8. Abbott, K., *J.A.M.A.*, 162:917,1956.

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*In more than 90% of patients.

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high percentage of patients recover after a settlement of their litigation, especially after having been awarded some money. The presumption is that these patients have been malingering. Some of my patients have ceased to complain after a legal settlement, with similar abrupt "cures" having occurred in non-litigated cases. Certainly, not all these patients were malingerers. There must be a reasonable explanation for sudden cessations of symptoms in those patients without litigation, and for the many honest patients with legal cases. The explanation may lie in the direct relationship between muscle tension in the neck and anxiety. The anxiety over ill health or a law suit, with its accompanying rise in cervical muscle tension, could easily accentuate a minor pain or subclinical discomfort well over the threshold of pain. It could easily aggravate and potentiate an existing pain. This would be particularly true in those cases with demonstrable bony changes and resultant change in function, no matter how slight.

Prepare Well for Going on Witness Stand

Relating a given small fracture to a specific traumatic incident using x-ray evidence is often difficult. Demonstration on serial films of changes consistent with the healing process in bone is usually required. These changes may be slight and difficult to demonstrate as in other flat bones, because these bones heal slowly, at a variable rate, with little or no external callus. Partial or complete non-union is frequent. From a clinical standpoint, the amount of disability is variable and in most instances only slightly related to the x-ray findings. In medico-legal cases, therefore, estimation of damages must be essentially based on clinical data.

Prognosis Has Its Difficulties Also

From a prognostic standpoint, the clinical followup of this series is incomplete, but there is evidence to show that these minor injuries serve as foci of hypertrophic arthritis. Moreover, the changes are not limited to the level of the lesion, but extend for several levels, probably because of the altered dynamics of the cervical spine engendered by the original traumatic lesion. At each level there is a five-point suspension system comprised of the two apophyseal joints, the two lateral joints of Luschka, and the intervertebral disc. Altered dynamics at any one of these points sooner or later spreads to, and is manifested in, the others. The altered motion

at the level of the injury affects and makes abnormal the motion at contiguous levels, leading to progression of the hypertrophic changes up and down the spine. These changes are relatively asymptomatic, while in a few, symptoms caused by secondary arthritis become disabling some years after rapid recovery from a minor episode of trauma.

Conclusions

1. Minor fractures of the smaller elements of the cervical spine occur very frequently, often as the result of slight trauma, particularly hyperextension and hyperflexion injuries.

2. These fractures are usually not visible on routine films of the cervical spine. They are usually demonstrable on special views, particularly an anteroposterior view angled 30° caudad, for evidence on the state of the lower cervical spine, and a modified occipito-submental view for C1 and the upper cervical vertebrae.

3. These small fractures may serve as foci of hypertrophic arthritis at the level of the lesion and adjacent levels.

4. The symptoms for which these lesions are responsible vary greatly. Both the original and the hypertrophic sequelae may be symptomatic and disabling, but in the majority of cases recovery is rapid and symptoms mild.

5. In making the proper diagnosis of these cases, medico-legal and other, the criteria must be primarily clinical. Correlation with x-ray data has been largely uncertain.◀

Reversible Causes of Psychic Disturbances in Elderly

Of 150 patients more than 60 years of age admitted to hospital for psychiatric care, 45% had acute brain syndromes traceable to potentially reversible physiologic causes. The main causes of psychic disturbances were malnutrition in 24%, alcoholism in 22%, and cardiac insufficiency in 18%. More extensive diagnostic screening and longer periods of observation and initial treatment of these patients would decrease significantly the numbers of elderly people now being sent to state mental hospitals. None of the 150 had a record of psychiatric hospitalization before the age of 60 and none with potentially reversible brain syndromes had been referred as medical patients.

Neal, M. W., *Roche Report Med. Prog.*, 2:22, 1960.

inside as well as outside the hospital... staphylococci usually remain sensitive to

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Precautions: It is essential that adequate blood studies be made during treatment with the drug. While blood studies may detect early peripheral blood changes, such as leukopenia or granulocytopenia, before they become irreversible, such studies cannot be relied upon to detect bone marrow depression prior to development of aplastic anemia. 5131

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Dietary Control of Atherosclerosis

DAVID E. DINES, M.D., *Denver, Colorado*

►*Although the exact cause or causes of atherosclerosis is unknown, the diet has been strongly implicated in atherogenesis. Controlling the amount and kind of fat consumed in the diet is the most practical means for prevention and control. There are no side effects or expensive drugs to purchase.*◄

Atheroma may result from a primary disturbance in fat and cholesterol metabolism in man, but it has not been established what part lipid deposits play in the pathogenesis. It also remains to be established whether the lipid disturbance is one of the arterial wall, or of an alteration of fat metabolism, or of transportation of fats. Regardless, the diet has been strongly implicated in atherogenesis and it is important to review some of the pertinent data.

Hyperlipemia

Essential hyperlipemia, a familial disorder characterized by a defect in the clearing of absorbed fat from the blood,[1] is frequently associated with atherosclerosis. The serum is milky, there is a marked increase in the concentration of serum triglycerides, and usually an increase in serum cholesterol. Secondary hypercholesteremia, also frequently accompanied by atherosclerosis, is associated with myxedema, diabetes mellitus, nephrotic syndrome and obstructive biliary disease. Some believe that the major fault lies in excessive dietary intake of total fat,[2] while others believe that a disproportionate amount of saturated fatty acids in the diet is responsible for hypercholesterolemia.[3]

Geographic Differences

Atherosclerosis is ranked as the number one cause of death in the United States. It has been reported to be conspicuously lower in some parts of Africa,[4]

1. Amatuzio, D. S., & Hay, L. J., *Arch. Int. Med.*, 102:173,1959.
2. Keys, A., *J.A.M.A.*, 164:1912-1919,1957.
3. Ahrens, E. H., Jr., et al., *Lancet*, 1:943-953,1957.
4. Brock, J. F., & Bronte-Stewart, B., *Minnesota Med.*, 38:852,1955.

Italy[5] and Greenland,[6] where fats comprise a smaller proportion of the diet than in this country. Atheromatous disease is rare among Orientals who subsist largely on vegetarian diets.[7] In countries where eggs and milk are regularly consumed, the population has higher blood cholesterol levels, more arterial lesions, and higher death rates from coronary disease than populations in countries where little animal or dairy fat is consumed.[8] Autopsies on United States soldiers (average age 22) killed in Korea showed gross atheromas in 50 per cent of the coronaries, while Korean and Chinese soldiers, eating much less milk, eggs, or fat, had no lipid in the coronary intima.

Occupational emotional stress has been found to have an adverse effect on blood cholesterol and clotting.[9] In one study[10] on the degree of coronary and aortic atherosclerosis in autopsies of Haitian and United States Negroes, there was double the degree of atherosclerosis in coronary arteries of the latter but no difference in the aortas. The authors felt the predisposition to coronary atherosclerosis in the United States group suggested factors other than diet. But if stress is the important factor, what explanation exists for the fact that the degree of arteriosclerosis in zoo animals is 10 to 25 times greater than it was 25 years ago?[11]

Cholesterol as an Index

Hypercholesteremia is frequently (but not always) associated with atherosclerosis so that a given patient with an elevated serum cholesterol will not necessarily develop atherosclerosis. However, cholesterol is as good an index of atherogenic activity as is available, although an increase in beta lipoproteins,[12] cholesterol-phospholipid ratio,[13] triglycerides,[14] and fatty acids of cholesterol esters[15] can all be correlated with atherosclerosis. The normal value of plasma cholesterol in a group of healthy males aged 40 to 60 was 198.4± 25 per 100 ml.[16]

Non-Dietary Methods of Lowering Cholesterol

Ingestion of sitosterols, which prevent the intestinal absorption of cholesterol through inhibition

5. Keys, A., et al., *Arch. Int. Med.*, 93:328, 1954.
6. Keys, A., *Mod. Concepts Cardiovas. Dis.*, 25,1956.
7. Page, I. H., et al., *J.A.M.A.*, 164:2048, 1957.
8. Dock, W., *Ann. Int. Med.*, 49:699-705,1958.
9. Friedman, M., et al., *Circulation*, 17:852-861,1958.
10. Groom, D., et al., *Ann. Int. Med.*, 51:270-288,1959.
11. Ratcliffe, H. L., & Cronin, M. I. I., *Circulation*, 18:41,1958.
12. Rosenberg, I. N., et al., *Am. J. Med.*, 16:818-884,1954.
13. Gertler, M. M., et al., *Circulation*, 2:205-214,1950.
14. Albrink, M., & Man, E. B., *Arch. Int. Med.*, 103:4-8,1959.
15. Barry, L., *Lancet*, 2:71-73,1959.
16. Juergens, J. L,. & Achor, R. W. P., *Proc. Staff Meet. Mayo Clin.*, 34:533,1959.

of its esterification, has been used to decrease elevated cholesterol levels. Few investigators have been enthusiastic about the response.[17]

Desiccated thyroid, in large doses, is capable of decreasing the serum cholesterol, but large doses are not desirable in patients with coronary artery disease because of the accentuation of angina pectoris. Analogues of thyroxine (dextrothyroxine) have been shown experimentally to be effective in lowering the cholesterol without increasing the work of the heart, and in the future may be a valuable adjurant to dietary control.

Estrogens are effective in reducing serum cholesterol concentration in men and postmenopausal women with hypercholesteremia.[18] Satisfactory results have been obtained with dosages of 0.2 mg. to 2.0 mg. of ethinyl estradiol. Side effects which limit its value are feminization with gynecomastia and decrease or loss of libido in men and the occurrence of uterine bleeding in postmenopausal women.

Nicotinic acid in large doses has been effective in reducing the serum cholesterol,[19] 1.5 to 6.0 Gm. of the drug being administered daily in divided doses. Side effects have included flushing, itching, urticaria, and variable degrees of anorexia, nausea and diarrhea. The larger the dose of nicotinic acid the greater the response, but side effects seriously limit its use.

Inhibition of synthesis of cholesterol in the liver has been accomplished by administration of triparanol (MER/29), which is well tolerated and relatively free from side effects. However, this is a new drug and in the cholesterol biosynthesis an intermediate, desmesterol, accumulates and to date we don't know the long-range effect of the intermediate product. Capsules containing concentrated polyunsaturated fatty acids (arachnidonic, linoleic, and others) have been used as a supplement to dietary control.

Experimental Findings

Hypercholesterolemia and atherosclerosis, experimentally produced in monkeys by feeding fat diets, have been the result of excess dietary cholesterol and not excess dietary neutral fat.[20] Experiments in rabbits have shown that the type of fat, in addition to the quantity, is an important factor in atherogenesis.[21] Atherosclerosis can be produced by feeding a cholesterol-free diet containing 20 per cent hydrogen-

17. Levere, A. H., et al., *Metabolism*, 7:338-348,1958.
18. Marmostan, J., et al., *New England J. Med.*, 258:583-586,1958.
19. Achor, R. W. P., & Berge, K. G., *Med. Clin. North Am.*, 42:871-880,1958.
20. Cox, G. E., et al., *Arch. Path.*, 66:32-52, 1958.
21. Wright, A. S., et al., *Lancet*, 2:594,1959.

ated coconut oil, the accompanying hypercholesteremia being abolished by adding 8 per cent corn oil to the diet. The disease can also be induced by feeding these animals a diet with too low a ratio between polyunsaturated fatty acids and the total amount of fat.[22] Atheromas, and in turn myocardial infarctions, have been produced in rats on high cholesterol diets.

The Average Diet

The average person living in the United States derives approximately 40 per cent of his total calories from fat. In countries where individuals have low concentrations of cholesterol and the death rates from coronary artery disease are low,[23] 10 to 15 per cent of the total calories are derived from fat.

An Optimum Diet

Three major factors to consider in constructing an optimum diet are acceptability, adequate caloric intake, and maintenance of the lowest level of plasma lipids possible. A diet containing large amounts of fat rich in unsaturated fatty acids derives most of its fat from vegetable sources (corn, cottonseed, or safflower seed) and largely excludes meat, dairy products and eggs (which increase the concentration of serum cholesterol). Not as palatable as the diet in which two-thirds of the fat is derived from predominantly unsaturated fatty acids and one-third from saturated fatty acids, this diet will include more fish and fowl and less animal protein and fat. When 30 per cent (or approximately 50 gm.) of the total calories are present as fat and 80 per cent of the fat calories are in the form of unsaturated fat, normal levels of blood lipids can be maintained.

Diet is the most practical method of treating hypercholesteremia and of preventing atherogenesis. Dangerous and unpleasant side effects are absent, there are no expensive drugs for the patient to purchase, and it is an effective means of prevention and control.◀

22. Malmros, H., & Wigand, G., *Lancet*, 2:749, 1959.
23. Keys, A., *J.A.M.A.*, 164:1912-1919,1957.

Oral Management of Psoriasis with a Lipotropic Agent

LUDWIG SCHWARZSCHILD, M.D., *New York, New York*

►*A lipotropic agent derived from whole hog pancreas was given to 31 patients with psoriasis. On dosages of 15 capsules daily, 12 had complete remission, 10 were improved, four were moderately improved, and five had no benefit. A dosage of six capsules daily maintained improvement indefinitely in all cases.*◄

While one can readily understand the relationship between psoriasis and any one or a combination of several factors, probably they act singly or concurrently as precipitating mechanisms rather than as basic causes. There is predilection for certain family groups but no evidence that the disease is hereditary.[1]

Controlled studies, in which each important nutritional element has been withheld or kept at a minimum, have shown, in some cases, improvement of the eruption. Studies of nitrogen metabolism in psoriasis[2] did not materially help to solve the problem, for while patients improved, the diet prescribed was not sustaining. Other investigations[3,4] demonstrated that individuals with psoriasis also suffered disturbed lipid metabolism, whether primary or secondary was not stated. An increase in lipids was found in the blood of patients with psoriasis and favorable response to a prolonged dietary regimen low in fats was obtained.

Subsequent studies have demonstrated that in almost all cases of psoriasis, there is an abnormality — quantitative or qualitative — in the metabolism of fats, and an overwhelming number of patients are benefited when this error is corrected. Since it is difficult to keep ambulatory patients on a diet sufficiently restricted in lipid content, and for a period long enough to benefit the disease,

1. Hoede, K., *Hautarzt*, 8:422,1957.
2. Schamberg, J. F., et al., *J. Cutan. Dis.*, 31: 803,1913.
3. Grutz, O., & Burger, M., *Klin. Wchenschr.*, 12:373,1933.
4. Rosenthal, T., *Clin. Med.*, 7:547-551,1961.

attempts have been made to favorably influence lipid metabolism by other means, e.g., giving lipotropic medications to improve pancreatic function and fat metabolism.

Material and Methods

In the present study, a lipotropic agent* derived from whole hog pancreas (not an extract) was used. It contains pancreatic lipase, amylase, trypsin, and carboxypeptidase, as well as inositol, lecithin, choline, methionine, and traces of vitamins and minerals. The preparation was administered in gelatin capsules, each containing the equivalent of 2 Gm. of pancreatin and 3 mg. of pyridoxine HCl. The pancreatin used has five times the amylolytic, lipolytic, and tryptic activity required by the National Formulary. Pyridoxine is included because it is an essential substance required for the utilization of unsaturated fats.[5]

A total of 44 patients, all seen in private practice, were started on treatment. Eight did not continue for sufficient time to assess the results, or did not cooperate. The remaining 36, (22 women and 14 men aged 24 to 71) all had an unusually extensive distribution of lesions, present from six months to over 50 years, and all had been previously treated, locally as well as systemically. The latter included arsenicals administered orally and parenterally, colloidal manganese injections, and cortisone. Some had proved refractory to all medications.

Initially the patients were given two capsules three times daily before meals. Since there was little indication of improvement in the eruptions, the dosage was increased to five capsules three times daily, with one or two additional capsules before the consumption of any between-meal foods. Subsequently, patients were put on the latter increased dosage schedule. All were advised to follow a low-fat diet, but it is doubtful that many heeded this advice. The use of alcohol in any form was interdicted because of its anti-enzymatic effect.

Topical treatment was in general limited to either plain petrolatum or petrolatum with 2% salicylic acid. A few patients were given 5% ammoniated mercury ointment.

Results

The earliest improvement was evident in the second month of therapy. Many subjects had an early exacerbation of the eruption; the lesions looked more inflammatory, and some developed a highly erythematous bor-

*Lipan®, Spirt & Co., Inc., Waterbury, Connecticut.

5. Burr, G. O., & Burr, M. M., *J. Biol. Chem.*, 82:345,1929.

TABLE 1

RESULTS OF *LIPAN* THERAPY IN 31 PATIENTS

	NUMBER OF CASES	PER CENT
omplete remissions	12	38.71
istinct improvement	10	32.26
oderate or transitory improvement	4	12.90
ailures	5	16.13
TOTAL	31	100.00

der with or without new peripheral psoriatic papules. With ensuing improvement, the lesions faded and flattened, disintegrating into smaller units with intervening islands of pale, normal skin within the area of the psoriatic patches. The lesions on the lower extremities and the old, infiltrated plaques on the trunk were regularly the most resistant. Only 31 of the 36 patients were observed long enough to determine effect of treatment—for six to 18 months; 12 (38.71%) had complete remissions and were free of all lesions or showed only an occasional residual spot on an elbow or knee, 10 (32.26%) were distinctly improved (most of the lesions had disappeared with the possible exception of the older ones on the elbows or knees). Thus, 22 of 31 subjects (70.97%) responded extremely well to the treatment. In three (9.67%) there was moderate improvement and in one, improvement was transitory. Five patients (16.13%) were catalogued as failures (Table 1).

In those subjects where there was a progressive improvement in the eruption, the dosage of the lipotropic agent was gradually reduced to two or three capsules three times daily. Most of these have been observed since and have done well on a maintenance dosage. In one woman who had had generalized psoriasis and in whom, after five months' therapy, only a few residual lesions remained on the elbows and knees, the dosage was reduced. This was followed after two weeks by a flareup which again responded promptly when the dosage was increased to five capsules three times daily. She has since maintained her improvement on three capsules three times daily.

The treatment of all patients (with the exception of five whose periods of therapy were too short to be evaluated) was

started in the fall or early winter of 1958. No recurrences have since been observed in any individual who had continued on a maintenance dosage.

Case Reports

Case 6, man aged 39. Psoriasis started on scalp 6 months previously; followed by an acute outbreak on the trunk and extremities. Treatment was started with 10 capsules daily. After 2 weeks there was an exacerbation with inflammatory, scaling papules. In 5 weeks this subsided and in the ensuing 2 months all lesions disappeared. Still under observation and free of lesions on maintenance dosage of 6 capsules daily (Figures 1 and 2).

Case 30, man aged 57. Psoriasis since age 20. All kinds of therapy without noticeable improvement—on restricted diet for gastric ulcer for many years. Chronic constipation. Eruption frequently subsided during winter vacations in a warmer climate, but during the last few years, as a resident of Arizona, there has been no improvement. As illustrated (Figures 3 and 4) there was a widespread psoriasis. Initially he was given 12 capsules daily plus one or 2 additional before snacks. In 4 weeks many of the lesions appeared more active, presenting slightly inflamed borders. The dosage was increased to 5 capsules 3 times daily. This was followed in a month by decided improvement. Patient is still under periodic observation and taking 6 to 8 capsules daily as a maintenance dosage. The skin is completely clear (Figures 5 and 6). It should also be remarked that he is no longer constipated.

Case 10, woman aged 40. Psoriasis started in childhood, disappearing during solitary pregnancy, recurring subsequently, and failing to improve perceptibly under any of various treatments, including Fowler's Solution. The extremities, trunk, and scalp showed many large infiltrated plaques. Treatment was started and after a brief exacerbation, improvement began. In 5 months all evidence of psoriasis had disappeared. She has since remained free of lesions on a maintenance dosage of 6 capsules daily.

Case 27, woman aged 54. Psoriasis began as a solitary lesion over left shin. Patient had varicosities on the left leg and thigh. Subsequently lesions appeared on her scalp, postauricularly and on the elbows and knees. Treatment was instituted and 3 months later all lesions were much improved. At the end of 5 months no trace of psoriasis remained. She is still free of symptoms and maintains a dosage of 6 capsules daily.

Case 1, a woman of 46. Psoriasis for 25 years. Many types of therapy without benefit. During 2 pregnancies there was slight improvement. A widespread eruption consisted of numerous, discrete and confluent, nummular papules. Involvement of the scalp, with some loss of hair, and pitting of the finger nails. There was minimal improvement of the lesions on the glabrous skin during therapy. The only remarkable feature was that the scalp eruption completely disappeared. There was a cessation of hair loss and complete restitution of the fingernails. When medication was discontinued several months later, lesions of the scalp and nails reappeared as well as an exacerbation of all other lesions.

Case 15, woman aged 31. Psoriasis with patches limited to elbows and knees for about 10 years. Recently, sudden spread of the larger lesions with a few patches on the scalp and numerous papulosquamous lesions on the trunk and extremities. Initially, 12 capsules were given daily, with one or 2 additional capsules taken with any food between meals. After 2 months, the more recent acute outbreak had completely disappeared and the older lesions on the elbows and knees had greatly improved. At this time the dosage was reduced to 8 capsules daily. Within a week the patient suffered a relapse. Therefore, the dosage of 15 capsules daily was reinstituted. Five weeks later, there remained only faint remnants of the lesions which had been present for

TREATMENT OF PSORIASIS WITH ORAL LIPOTROPIC AGENT

FIGURE 1
PSORIASIS
OF
6 MONTHS'
DURATION

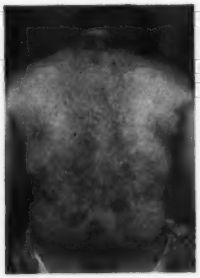


FIGURE 2
RESULTS OF
4 MONTHS'
TREATMENT

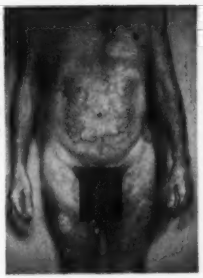


FIGURE 3
DISEASE OF 37
YEARS' DURATION
PREVIOUS THERAPY
PRODUCED NO
IMPROVEMENT

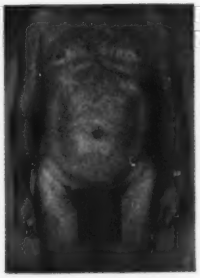


FIGURE 4
CLEARING AFTER
2 MO.'S TREATMENT
ON DOSAGE OF
5 CAPSULES
3 TIMES DAILY

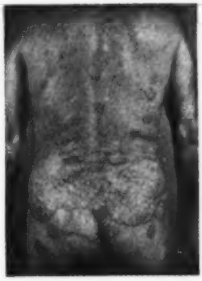


FIGURE 5
SAME PATIENT
AS ABOVE,
BACK VIEW

FIGURE 6
SAME PATIENT
AS ABOVE,
BACK VIEW

so many years on the elbows and knees. A maintenance dosage of 6 to 7 capsules was established and the patient has since remained free from any further lesions.

Comments

The results of this study confirm the hypothesis that psoriasis depends upon, or is associated with, a disturbance in lipid metabolism. When corrective measures are taken to improve fat metabolism there is a resolution of the skin lesions. In this series, 70.97% showed complete remission or decided improvement; 16.13% were failures. There were no side reactions of note. In one instance it was necessary to reduce the dosage from 15 to 12 capsules because of mild diarrhea with the larger dosage. In all patients who had been afflicted with constipation, digestion was favorably influenced and daily evacuations became normal. This result is attributed to the enzymes in the medication. The transitory exacerbations are not to be interpreted as side reactions, since those who experienced a transitory exacerbation responded more quickly.

A large daily dosage of the lipotropic agent continued for sufficient time is necessary to accomplish the desired results. In addition to disturbed lipid metabolism, factors such as emotional stress, remote foci of infection, and others, may provoke acute outbreaks and recurrences of lesions. Active topical therapy may contribute toward a more rapid resolution of the lesions.

Patients have remained on maintenance dosages of six capsules daily. This dosage should be continued indefinitely — a method successfully employed in other types of substitution therapy. Only after years of observation will it be possible to give a more definite answer regarding maintenance dosage requirements.

Summary

1. Psoriasis is probably caused by, or associated with, a disturbance in lipid metabolism.

2. Lipotropic medication improves pancreatic function and lipid metabolism. Lipan, a product derived from whole pancreas (hog) desiccated, defatted, has a powerful lipotropic action.

3. Of the psoriatics of long standing, 38.71% showed complete remission, 32.26% showed decided improvement, 12.90% showed moderate or temporary improvement, 16.13% were failures.

4. No side effects of consequence were observed.

5. Results depend on total daily dosage and length of time administered.

6. Maintenance dosage should be continued indefinitely.◀

Carcinoma of the Cervix: Management by Radiotherapy

ROBERT M. JAMISON, M.D.,* *Columbia, Missouri*

►*Incidence increases with age, with abnormal vaginal bleeding the most common presenting symptom. Patients should have routine pyelograms and cystoscopy, and should have radiation therapy explained to them prior to treatment. Each patient should receive a maximum dose in the first course of therapy.*◄

In the rapidly changing field of the management of neoplastic diseases it is a continuing necessity to reappraise and re-evaluate both old and new techniques. All too often contempt for a proven method of treatment and enthusiasm for a new procedure lead us to ignore facts which should determine our course of therapy. In the case of carcinoma of the cervix the nature of epidermoid carcinomas and the lymphatic drainage of the pelvis makes radiotherapy the treatment of choice in most medical centers, although radical surgery with its morbidity and mortality is being revived.[1-6]

There are an estimated 25,000 new cases of carcinoma of the cervix annually in the United States. Some 70 per cent of these patients are potentially curable if treatment is started early enough. Carcinoma of the cervix is responsible for 25 per cent of the malignant tumors in women. In untreated patients, a five-year survival rate of only 2.7 per cent has been reported,[7] whereas in treated patients the five-year survival rate for all stages of carcinoma of the cervix is 50 per cent.[8]

Carcinoma of the cervix may develop at any age. The incidence increases after age 35. The

*From the Department of Radiology, University of Missouri Medical Center.

1. Berry, C. D., *South. M.J.*, 52:6,1959.
2. Braasch, J. W., *Surg. Clin. North Am.*, 39:3,1959.
3. Dahle, T., *Surg. Gynec. & Obst.*, 108:5, 1959.
4. Frick, H. C., et al., *Surg., Gynec. & Obst.*, 107:457-468,1958.
5. Kimbrough, R. A., *South. M.J.*, 152:6,1959.
6. Taylor, A. G. C., *Brit. J. Radiol.*, 13:295, 1940.
7. Shimkin, M. B., *Ann. Int. Med.*, 45:255-267,1956.
8. Del Regato, J. A., *Radiology*, 46:579-582, 1946.

disease is three times more common in married women without children, and 14 times more common in married women with children, than in unmarried women.

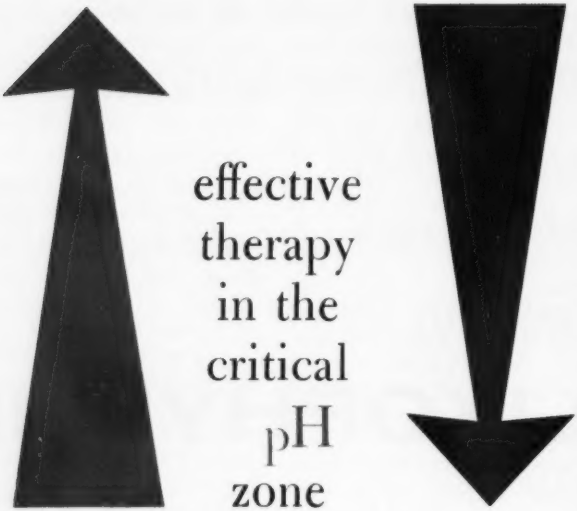
Method of Development: Symptoms and Signs

Epidermoid carcinoma of the cervix arises from the glands and epithelium distal to the internal os. Carcinoma arising in the cervical canal may have mestastasized to the pelvic nodes, or extended into the uterine musculature before it becomes visible. A dilation and curettage in a patient for a non-malignant condition may reveal an unsuspected carcinoma of the endocervical canal.

In about two-thirds of cases abnormal vaginal bleeding is the presenting symptom. This may consist of irregular menstruation, bleeding on exertion, postcoital bleeding, or postmenopausal bleeding. There is usually a seven- to eight-month delay between the first symptom and the first medical consultation. Vaginal bleeding is due to ulceration of the cervix and is frequently associated with infection. The patient may complain of a profuse blood-tinged vaginal discharge. By the time a physician is consulted the disease is far advanced and the patient is seeking relief for the pain due to inflammation and invasion of the carcinoma into the parametrium.

In only about 10 per cent of the cases is the disease recognized while limited to the cervix; 50 per cent have involvement of the parametrium by the time the diagnosis is made. Low back pain, pelvic discomfort, edema of the extremities, phlebitis, and pain referred to the leg all indicate parametrial spread. Ureteral obstruction may cause pain in the lumbar area, pelvis, and groin. Frequency or hematuria results from extension to or pressure on the bladder. Spread to the rectum may cause constipation, hemorrhoids, or a rectovaginal fistula. Spread into the paravertebral lymph nodes causes abdominal pain.

Normally the cervix is covered with squamous epithelium changing to a layer of prismatic cells at the external os. The glands of the endocervical canal are composed of cells similar to those lining the canal. When metaplasia occurs squamous cells may be found in the endocervical canal. It is in the endocervical canal that the majority of cervical carcinomas arise. The earliest carcinoma of the cervix is intraepithelial carcinoma of the endocervical canal. Those carcinomas arising from the endocervical ca-



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Low surface tension of Massengill Powder solution is 50 dynes/cm. (vinegar is 72 dynes/cm.). This enables it to penetrate and cleanse folds of the vaginal mucosa. Low surface tension makes cell walls of infecting organisms more susceptible to therapy.

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nal and distal to the external os are classified as epidermoid carcinomas.

Two other carcinomas, the adenocarcinomas and the adenoacanthomas, arise from the cervix. Adenocarcinomas arising in the endocervical canal account for some 3 to 5 per cent of cervical carcinomas. Patients having adenocarcinoma of the cervix have a 24 to 30 per cent five-year survival with radiation therapy. Adeno-acanthoma contains elements derived from the endocervical glands as well as the prismatic cells lining the endocervical canal. In this type both elements participate in the process. Regional lymph node involvement may be expected in a high percentage of these patients.

Carcinoma in Situ

Carcinoma *in situ* is sometimes diagnosed even when carcinoma of the cervix does not exist. The microscopic diagnosis may indicate:

1. Gross invasive cancer of which only the periphery was biopsied.
2. Subclinical invasive carcinoma limited to the epithelium.
3. No cancer.

The average age for carcinoma *in situ* is about 38 years. There is an approximate 10-year interval between the diagnosis of carcinoma *in situ* and the clinical manifestation of carcinoma of the cervix, the average age for the latter being 48 years.

Application of Radiation and Response

The degree of cellular differentiation is important in the response to radiation. The gross extent of the disease at the time of beginning therapy is a better guide to prognosis than the degree of microscopic differentiation. Distant metastases are more frequent as the tumor becomes more anaplastic. As the degree of anaplasticity increases the tumor and its metastases become more radiosensitive to the x-ray beam. The degree of radiosensitivity is not directly related to the degree of radiocurability.

Extension—Means and Results

Extension into the parametrium occurs in almost any direction from the cervix, most commonly laterally into the base of the broad ligament. The spread usually follows the lymphatic channels, the perivascular and perineural structures. Tumor cells may spread through the lymphatic channels into the endometrium or the uterine wall. Spread into the portio vaginalis is commonly seen as ulceration of the external os or as an excavating crater of the cervix. Since the lymphatics of the upper vagina, rectovaginal septum and the vesicovaginal septum all

communicate, spread in either of these directions is common.[6] The inflammation frequently associated with carcinoma of the cervix may produce inguinal adenopathy and palpable inguinal nodes which do not necessarily mean metastatic disease.

Patients who have carcinoma of the cervix should have routine intravenous pyelograms and cystoscopy. Frequently the examining finger may detect invasion into the vesicovaginal septum. Of all patients who die of carcinoma of the cervix, 60 to 80 per cent die of uremia secondary to ureteral obstruction. This obstruction may be silent and intravenous urography be necessary to detect it. The ability to pass a ureteral catheter does not necessarily rule out ureteral obstruction. Ureteral obstruction may be secondary to external pressure from encroaching carcinoma or invasion of the ureteral wall or lumen. It has been observed that 54 per cent of patients with abnormal intravenous pyelograms before treatment were dead within one year following completion of radiotherapy.[9] Renal failure following radiation is almost always due to recurrence of tumor, rarely to inflammatory or radiation strictures of the ureter. Early diversion of the urinary stream in patients showing ureteral obstruction makes for better survival.

Pressure may be exerted on the rectum by a large cervical mass, or fixation of the cervix by invasion of the ureterosacral ligaments. Invasion into the rectovaginal septum plus infection may lead to a spontaneous rectovaginal fistula. Following radiation, necrosis of tumor in the rectovaginal septum may also lead to a rectovaginal fistula. Since the longevity of patients with carcinoma of the cervix has been increased, distant metastases are becoming more prevalent. Bony metastases are more apt to be found in the pelvis and spine; metastases also occur in the lung.

Lymph nodes most commonly affected are those derived from the pre-ureteral trunks that pass anterior to the ureters to reach the lateral pelvic walls, each giving rise to nodes between the external iliac vein and the obturator nerve. A less important trunk passes behind the ureter to hypogastric nodes near the origin of the uterine artery. Another accessory channel passes posteriorly in the ureterosacral ligaments to reach either side of the rectum. These lymphatic channels drain into nodes on either side of the rectum and into nodes at the promontory of the sacrum. The most important lymphatic channels are those which drain

9. Schewe, E. J., Jr. & Sala, J. M., *Am. J. Roentgenol.*, 81:1,1959.

CORRELATION BETWEEN CLINICAL CARCINOMA AND MICROSCOPIC EXTENT

	Microscopically			
Clinically	Stage I	Stage II	Stage III	Stage IV
Stage I	52%	25%	15%	8%
Stage II	10%	40%	35%	15%
Stage III	0%	25%	50%	25%

to the lateral pelvic walls through the pre-ureteral trunks in the broad ligament.

Apparent Extension of Cancer May be Inflammation

Parametrial induration with carcinoma of the cervix may not be extension of the tumor, but secondary to inflammatory disease, and it is not uncommon for it to subside after several treatments with radiation far below a cancerocidal dose. The larger nodes are more likely to be inflammatory than neoplastic; those smaller, and more easily overlooked, are more likely to contain tumor.

Correlation Difficult

The chart[6] above demonstrates that there is little correlation between clinical carcinoma and the microscopic extent of the disease.

It is easy to see from the chart that the surgeon can have little idea of the extent of the disease when planning his procedure. It is customary when treating such patients by radiotherapy to include the entire lymphatic drainage of the pelvis and this most likely accounts for the better results of radiotherapy.[10-12] From surgical experience carcinoma may be expected in the pelvic lymph nodes in some 15 per cent of patients in clinical stage I disease, and 30 to 65 per cent of patients in stages II and III. Since it is almost impossible to determine the extent of the disease, one should be guarded in prognosis, even in those patients who appear to have come early. Errors in defining the extent of the disease in stage I carcinomas account for 15 to 20 per cent of the failures in this group.

Associated Infection and its Management

Pelvic infection is frequently associated with carcinoma of the cervix, the infection spreading through the ulcerated mem-

10. Fricke, R. E., & Decker, D. G., *Am. J. Roentgenol.*, 75:502-507,1956.
11. Graham, J. B., *J. Am. Geriatrics Soc.*, 1: 567-576,1953.
12. Lampe, I., *Am. J. Roentgenol.*, 58:651-662, 1947.

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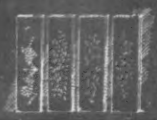
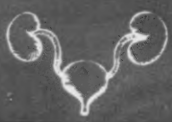


effective against most urinary pathogens



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branes of the cervix and vagina. Obstruction of the uterine canal may produce a pyometria, and the spread of infection lead to a pelvic cellulitis or abscess. External pelvic radiation and use of antibiotics are the best methods of dealing with the infection. The cervical canal should be probed to maintain its patency throughout the treatment. Hemorrhage may be controlled with vaginal packing. X-ray therapy, especially transvaginal, will control practically all cases of bleeding. Blood loss should be promptly restored. Frequency, dysuria, and hematuria are frequently seen in patients with bladder invasion, and appropriate studies of the GU tract should be made. Hemorrhoids may develop secondary to venous obstruction, as well as thrombophlebitis in the lower extremities.

Treatment of Cervical Cancer by Radiation

Radiation therapy being a rather formidable procedure, it is important that the patient be regarded as a whole and that nutrition, rest, and hemoglobin levels be maintained. The nature of radiotherapy should be explained to the patient fully to alleviate any undue fear. It is the intent of radiotherapy to deliver a cancerocidal dose, sparing as much as possible the normal pelvic tissue. Radiosensitivity of the tumor has to be equated to the radiovulnerability of the normal pelvic tissues. Ovarian sterilization in a course of radiotherapy cannot be avoided. The cervix and uterus can withstand 10 times the quantity of radiation that can be tolerated by the bowel. It is necessary to deliver a dose to the parametrium as high as is compatible with safety, which is cancerocidal but which will least damage the normal pelvic tissue.[13] Intracavitary radium and external radiation are now considered as two phases of the same treatment. Supervoltage radiotherapy has made it possible to treat the pelvis with higher doses than was possible with the 200-kv. machines. A cancerocidal dose for squamous-cell carcinoma of the cervix is in the vicinity of 6000 *r*, a dose which can be reached readily with the present methods of radiotherapy. Supervoltage radiotherapy is tolerated well, and causes no great discomfort.

Treatment by Surgery

Any surgical procedure for treatment of carcinoma of the cervix must have a low postoperative mortality and a reasonable postoperative morbidity.[2] Postirradiation injuries occur in 2 to 3 per cent of patients, while 10 per cent of the patients treated by surgery have fistulas, and

13. Cutler, M., *Surg. Gynec. & Obst.*, 74:867-870,1942.

urinary complications are frequent. Five-year survivals were reported for stage I carcinoma as 89%, stage II 64%, stage III 33.5% and stage IV 7.8%[3,14-18] or an average of 51.1% five-year survivals. Lymphadenectomy offers hope of cure to only 13 per cent more patients than does radium alone.[6,19] Combining radical pelvic surgery with radiation increases the five-year survival rate little if any.[20]

More As to Radiotherapy

Stage III carcinoma of the cervix, adequately irradiated, has a better prognosis than an operable carcinoma of the stomach, and thorough external x-ray therapy is the most important single factor in the treatment of advanced carcinoma.[8,21] A frozen pelvis is usually a stage III carcinoma and is best treated by x-ray therapy. Patients who have recurrent carcinoma following radiotherapy may be retreated with radiation.[22] The end results in longevity and function compare favorably with those of pelvic exenterations.[22,23] There is evidence that metastatic lymph nodes may be destroyed by radiotherapy. It was formerly assumed that radiotherapy would not destroy metastatic lymph nodes and it was for this reason that lymphadenectomy following x-ray therapy was done.[5]

Leaders in the field of management of carcinoma of the cervix feel that there is no need for surgery in treatment of carcinoma of the cervix where adequate radiotherapy is available. The skill of the radiotherapist has improved in recent years. There has also been an improvement in early diagnosis. The development of supervoltage radiotherapy equipment has made this form of treatment more tolerable to the patient. A recent survey of late results of radiation therapy in carcinoma of the cervix indicates that there are patients who are permanently cured of carcinoma of the cervix, and that the primary disease and its treatment do not predispose to development of multiple cancers. The prognosis of cured patients was not greatly affected by the treatment. Late therapeutic complications may be expected in six per cent of the patients. Eighty-five per cent of deaths after the fifth

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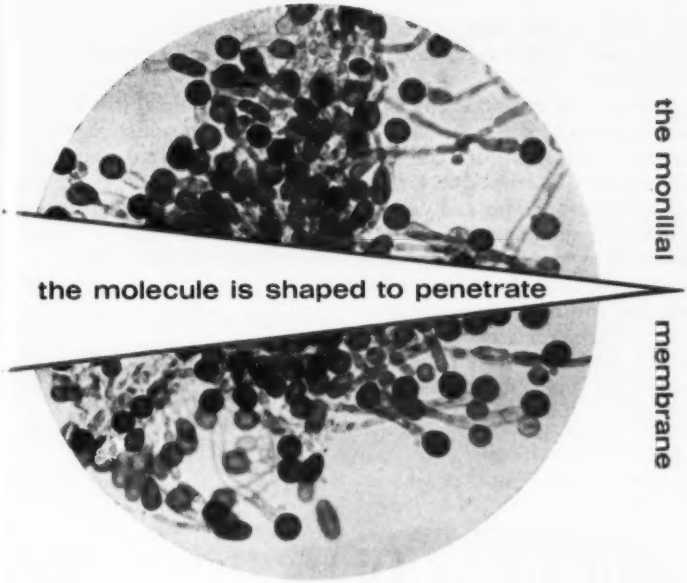

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Ortho

Lapan, B.: Am. J. Obst. & Gynec. *78*:1320, 1959.

year and 10 per cent after the tenth year were due to late recurrences.[24]

Our plan of radiotherapy is to deliver a tumor dose of 5000 *r* by external radiation, in conjunction with an intracavitary radium application. The radium delivers 6000 gamma *r* to point A and 2500 *r* to point B which is on the pelvic wall. It is our belief that the best opportunity to cure a carcinoma by radiotherapy is with the first course of treatment and that the patient should be treated to a maximum dose. It is fully expected that a few patients will require a colostomy. However, this is a small price to pay for cure of the carcinoma. Management of carcinoma of the cervix is less dependent upon the source or nature of irradiation than on a thorough knowledge of the disease.

A continuing reappraisal of the methods of therapy of carcinoma of the cervix is necessary in order to adopt those avenues of treatment which appear most promising.◄

24. Sorensen, B., *Acta radiol.*, Supplement 169, 1958.

Colloidal Agent for Local Treatment and Control of Mucous Membrane Infections

PAUL E. CRAIG, M.D., *Tulsa, Oklahoma*

►*A combination of ortho-iodobenzoic acid, 1 per cent, and triethanolamine, 11 per cent, in a neutral hydrophillic base produced good response in 89.2 per cent of 826 patients with infections of the mucous membranes of the vagina, rectum, or nasopharynx. The agent was nontoxic and easy to apply.*◄

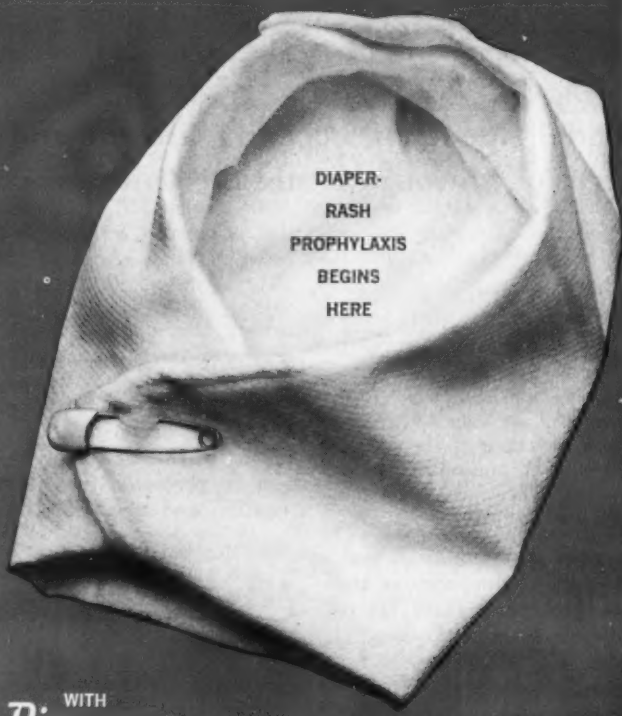
Infections of the mucous membranes of the vagina, rectum, and nasopharynx pose a therapeutic challenge to both the general practitioner and the specialist. Numerous rugal folds in the vaginal vault and the crypts, valves, and mucosal folds in the anorectal canal form anatomic barriers which often prevent contact with therapeutic agents, making recurrence of specific and nonspecific infections largely mechanical.

Bacterial destruction of the normal bacterial flora in the vagina and rectum frequently leads to change in the pH balance, monilial overgrowth, and persistent or recurrent itching and burning. Relief follows establishment and maintenance of adequate drainage of inflammatory exudates and the induction of prolonged bacteriostasis. The mucous surfaces being treated must be protected from further irritation and chemical trauma.

Material and Methods

A topical medicament* having decongestant, bacteriocidal, bacteriostatic, and anti-inflammatory properties, without the addition of vasoconstricting drugs, antibiotics, or cortisone derivatives, was clinically tested in patients with vaginitis, proctitis, sinusitis, and allied disorders. This colloid contains ortho-iodobenzoic acid, one per cent, and triethanolamine, 11 per cent, in a neutral hydrophillic base of oleic acid, 35 per cent; mineral oil, 32 per cent; and vegetable oil, 22 per cent. It is a thin, amber-colored oil, with a low viscosity,

*Progonasyl®, Progonasyl Company, Tulsa, Oklahoma.



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which rapidly penetrates into all crevices and folds. A surface tension of 35 dynes enhances its ability to quickly spread over and cover the entire area being treated.

Effects of the compound were determined in 826 patients. Of these, 545 were gynecologic patients with the following indications for treatment: Postpartum cervical erosions, lacerations, and abrasions; postoperative cervical conization and cauterization; trichomonal vaginitis; monilial vaginitis; and gonorrheal vaginitis. Two hundred proctologic patients were treated for itching, bleeding, or thrombosed internal and external hemorrhoids; anal fissure; cryptitis; papillitis; anal pruritus; and proctitis consequent to fecal impaction. The remaining 81 patients had such otorhinologic indications as maxillary, ethmoidal, and frontal sinusitis; allergic rhinitis; chronic otorrhea; otomycosis of the external ear canal; and acute catarrhal tympanitis.

In those having vaginal infections, the vagina, cervix, and endocervix were thoroughly swabbed with the colloid on three successive days. Material for smears and cultures was taken on the fourth day of treatment. If organisms were still present, daily applications were continued to the sixth day. The patient was instructed to instill the oil intravaginally at home using a specially designed applicator with a detachable bulb holding 4 cc. She was instructed to lie supine on a pillow with the hips elevated during instillation and to maintain this position for five to 10 minutes. A douche of one ounce of cider vinegar in a quart of warm water was prescribed for the following morning. Treatments by the physician averaged four the first week, by the patient six every other day for two weeks. Local treatment of gonorrhea was supplemented by administration of oral and parenteral antibiotics. In trichomonal vaginitis, the vaginal and rectal canals were treated simultaneously.

Procedure in patients having rectal infections consisted of having the patient thoroughly cleanse the anal orifice with warm water and a neutral soap (Ivory). The rectal pouch was then irrigated with baking soda (one-half ounce in a pint of warm water). Two drams of the colloidal compound were injected into the rectal pouch once daily for four days, with the patient maintaining a knee-chest position during instillation of the compound. A cotton pledget soaked in the oily mixture was placed snugly against the anus, between the buttocks, each night at bedtime. Enemas were pre-

TABLE 1

RESULTS OF TREATMENT OF MUCOUS MEMBRANE INFECTIONS WITH COLLOIDAL AGENT

INDICATIONS	NUMBER OF PATIENTS	RESULTS		
		GOOD	FAIR	POOR
Gynecologic				
Postpartum cervical erosions, lacerations, abrasions	294	294	0	0
Postoperative cervical conization, cauterization	102	102	0	0
Trich. vaginitis	90	55	30	5
Mon. vaginitis	45	40	4	1
Gon. vaginitis	14	12	2	0
Proctologic				
Hemorrhoids	84	70	6	8
Anal fissures	20	10	8	2
Cryptitis	24	22	1	1
Papillitis	16	15	1	0
Anal pruritus	46	42	1	3
Proctitis after fecal impaction	10	9	1	0
Otorhinologic				
Sinusitis	52	45	5	2
Allergic rhinitis	15	13	1	1
Chronic otorrhea	6	3	3	0
Otomycosis of external ear canal	4	2	1	1
Acute catarrhal tympanitis	4	3	1	0
TOTALS	826	737 (89.2%)	65 (7.8%)	24 (3.0%)

scribed for three consecutive nights only. Treatments were taken daily by the patient for four successive days, then once or twice weekly until the condition was cleared.

Patients with nasal infections had their nares packed with oil-saturated strips of cotton or gauze, care being taken to place the packing in close contact with the swollen turbinates, particularly in the region of the middle meatus. The strips were left in position for 10 minutes and then removed. A prompt and copious nasal discharge followed, with immediate relief from the pressure headache common to severe sinusitis. This observation was confirmed in a report[1] of 241 oto-

1. Evans, H. J., *Eye, Ear, Nose & Throat Month.*, 39:968,1960.

rhinologic cases treated with this compound. Treatments were given daily for three days, then once or twice weekly until the patient was symptom-free. When the patient used the prescribed oil at home, he was instructed to assume a head-low position with the nares presenting in a vertical plane. One or two drops of the oil were squeezed into each nostril, hugging the anterior wall with the tip of the plastic container. A stinging sensation in the upper cheeks and between the eyes indicated its proper placement in or near the middle meatus. Ear infections were treated by instilling two or three drops into the external ear canal at bedtime.

Results

Results of treatment are summarized in Table 1. Progonasyl produced rapid decongestion although it contained no vasoconstricting agents. It produced tissue debridement without the addition of enzymes, was anti-inflammatory without the presence of cortisone, and bacteriocidal and bacteriostatic without the addition of antibiotics. The compound was nontoxic and nonirritant, easy to apply, and was effective in 89.2 per cent of cases.◀

Polycythemia Vera: Report of 81 Cases

Comparison of results in 61 patients treated with radioactive phosphorus and in 20 in an earlier series treated initially with deep x-ray suggest that P^{32} is the superior therapeutic agent. Since 50% of patients with this disease die of thrombotic vascular complications due to increased viscosity and slowing of circulation, treatment with P^{32} is directed toward maintaining blood count as near normal as possible. It is given intravenously in a dose of 5 millicuries (regardless of weight, blood count, or other factors), treatment never being repeated under 3 months. Patients are seen monthly and the dose is repeated if after 4 months there is little or no response. Venesection is performed only when a vascular catastrophe is impending.

Of the 61 patients treated by P^{32} alone, 49 were given a full remission, 9 a partial remission, and 3 did not respond. Length of remission averaged 2 years, ranging from 6 months to 7 years. Total dose required to induce remission varied between 5 and 20 millicuries, and the time taken to remission varied between 3 and 12 months.

Garrett, M., *Irish J.M. Sc.*, 413:224-236,1960.

✓ from anxiety to the right frame of mind

✓ continuous, 24-hour cerebral oxygenation for the aging patient relieves mental confusion – a frequent problem in patients after forty – due to presenile changes in the vasculature of the brain. Notable benefit usually is seen within one to three weeks of therapy.

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Vertical Flap Ureteropelvioplasty

PETER L. SCARDINO, M.D., CHARLES L. PRINCE, M.D., and CALVIN T. SMITH, M.D., *Savannah, Georgia*

►*This is the technique of choice for correcting dependent ureteropelvic obstruction. High ureteral insertion and ureteral stricture occur less frequently, and are best corrected by other techniques. Of 48 operations performed, 32 produced good or excellent results, 12 fair, and four had poor results.*◄

The surgical treatment of choice for correction of dependent type ureteropelvic juncture obstruction of the kidney is pelvic flap ureteropelvioplasty.[1] In recent years, our choice of flap techniques has been vertical flap ureteropelvioplasty.[2,3] High ureteral insertion which causes ureteropelvic obstruction is best corrected by the Foley Y-V Plasty,[4] and obstruction due to stricture distal to the ureteropelvic juncture and beyond the reach of a viable flap is satisfactorily corrected by intubated ureterotomy.[5]

A review is presented of 57 consecutive cases (in 55 patients) of ureteropelvic juncture obstruction, operative technique employed to correct the anomaly, interesting features of some cases, and an appraisal of the end results. Only two kidneys were obstructed by high ureteral insertion. Of the remaining 55, seven with their companion ureters involved ureteral stricture and were subjected to intubated ureterotomy. Pathology confined to the dependent ureter obstructed 48 kidneys, and was corrected by vertical flap ureteropelvioplasty.

Initial observations encompassed the results of the first six cases in which the vertical flap technique *(vide supra)* was employed. In an additional 42 cases the procedure has remained essentially the same, but with a single significant differ-

1. Gibson, T. E., *J. Urol.*, 81:374,1959.
2. Scardino, P. L., & Prince, C. L., *South. M.J.*, 46:325-331,1953.
3. Culp, O. S., & DeWeerd, J. H., *J. Urol.*, 71:523-529,1954.
4. Foley, F. E. B., *J. Urol.*, 38:643-672,1937.
5. Davis, D. M., *Surg., Gynec. & Obst.*, 76: 513-523,1943.

ence: Splints and nephrostomy catheters have been eliminated from the procedure.

Operation

A flap is constructed from redundant renal pelvic tissue in the following manner: A luminal ureteral incision is made distal to the ureteropelvic obstruction. The incision is carried proximally through the obstruction and into the pelvis for a distance equal to that from the initial point of incision to the obstruction. Continuing laterally for approximately 2 cm. the incision is then carried distally parallel to the initial pelvic incision until it reaches a point opposite the ureteropelvic juncture. This pelvic flap is turned down along the side of the incised ureter and its edges sutured to the incised ureter with appropriate interrupted 0000 chromic catgut. The pelvic incision is similarly closed. All of the kidneys subjected to ureteropelvioplasty were fixed in position by nephropexy.

Observations

Etiology of Obstruction. Obstruction at the ureteropelvic juncture is a congenital anomaly. Often it is the result of an inadequate ureteral lumen due to intrinsic structural maldevelopment of the ureter as it ascends from the ureteral bud to join the renal mass. In some cases the obstruction is due to extrinsic pressures such as aberrant vessels or retroperitoneal fascial abnormalities. The flexibility and stretch of the renal pelvis and its associated structures, the infundibula and calyces, is such that advanced, even total renal parenchymal destruction may occur without producing anything more than subtle symptoms which escape the attention of all but the most astute and discerning clinician. The early investigation of seemingly insignificant signs and symptoms of the pediatric patient is essential if one is to prevent loss of renal parenchyma due to the insidiousness of progressive hydronephrosis by ureteropelvic obstruction.

Age Group Study. The peak age incidence of detection of ureteropelvic obstruction is 18 to 28 years, but the lesion in all cases is congenital. When the obstruction remains undetected for many years, it may result in extensive renal damage. Urologic x-ray studies should therefore be performed in children who exhibit unexplained abdominal, flank or hip pain, fever of undetermined origin as well as pyuria or hematuria. Urologic symptoms and signs often antedate by several years the time of correct diagnosis.

ASSOCIATED PATHOLOGY. Nephrolithiasis was associated with primary ureteropelvic obstruction in five of the cases. In one of these, the oldest case in the series, a woman aged 67, the multiple calculi were incorporated into a cast of the calyces, infundibula and pelvis which consisted of a gelatinous, yellow material removed en masse following the pyelotomy incision. Aberrant vessels were responsible for the obstruction in three patients and ureteral stones in one patient. In two of the three children under five years of age, bladder neck obstruction was an important concurrent finding.

GENERAL OBSERVATIONS. Of 32 female patients, the right kidney was involved in 24, the left in eight. Of 23 male patients, the pathology was found in 14 right kidneys and 11 left. Two of the male patients had bilateral ureteropelvic obstruction which required revision. One, a boy of 3, underwent bilateral vertical flap ureteropelvioplasty in which bilateral nephrostomies were employed but splints were not used. The second patient, a boy of 18, underwent bilateral Foley Y-V Plasty with a lapse of 11 weeks between the two procedures. The first patient in this series underwent vertical flap ureteropelvioplasty in which both ureteral splint and nephrostomy catheter were employed and left in place five weeks. Neither splints nor nephrostomies have been used on more recent cases, since splints were found to form calcareous deposits when left in place for three to five weeks and removal of the catheters often posed a serious and difficult problem. In no case in which either splint or nephrostomy was used did the patient's urine become sterile in less than two months after surgery. Contrariwise, in those cases in which neither was employed, sterile urine was obtained in less than two months. The postoperative period is smooth and the end results most satisfactory when splints and catheters are eliminated.

Representative Cases

CASE 1

A girl, aged 8, complained of severe left flank pain radiating into the left lower quadrant which quickly subsided but was associated with gross hematuria. She had experienced similar symptoms 12 months previously but the flank pain was interpreted as hip pain. She had been treated for rheumatic fever with steroids and had gained 10 pounds. Urological studies revealed a left hydronephrosis due to ureteropelvic obstruction. A vertical flap ureteropelvioplasty was performed, the postoperative course being smooth except for difficulty in removing the catheter and splint. An excretory urogram 10 days later revealed excellent funneling at the ureteropelvic juncture. The patient was symptom-free and the urine sterile.

CASE 2

A boy, aged 16, complained of right flank pain of moderate severity each time he engaged in football activity. There were no associated symptoms but the patient had undergone an appendectomy for vague right flank and right lower quadrant pain six months previously. The appendix was normal. Excretory urography revealed a large, poorly functioning, right hydronephrotic kidney. Right retrograde pyelography substantiated the findings of the excretory urogram: hydronephrosis right, etiology, ureteropelvic obstruction. A right vertical flap ureteropelvioplasty was performed, neither splints nor catheters being used. The urine was sterile 16 days later. Postoperative excretory urogram four months later revealed appreciable improvement over the preoperative x-rays.

CASE 3

A woman, aged 28, complained of right flank pain which had recurred intermittently for eight months and was associated with pyuria responsive to antibiotics. Her past history indicated a 15-year experience with intermittent episodes of right flank pain with radiation into the right lower quadrant. Excretory urograms revealed a third-degree hydronephrosis secondary to ureteropelvic obstruction. The patient underwent vertical flap ureteropelvioplasty, neither splints or catheters being employed in the surgical procedure. She was symptom-free and the urine sterile 11 days later. Excretory urography after four months revealed improvement over the preoperative findings.

Discussion of Cases

The three cases are representative of those 46 individuals who were successfully subjected to vertical flap ureteropelvioplasty for congenital ureteropelvic dependent obstruction. Each had a history which suggested that both symptoms and signs had been present for many months or perhaps years prior to complete obstruction which ultimately necessitated urological investigation. The response of renal parenchyma to revision of the ureteropelvic pathology and relief of obstruction is gratifying. However, a significant number of these patients experience irreversible renal destruction and require nephrectomy.

Results

Of the 48 kidneys subjected to vertical flap ureteropelvioplasty, seven were classified as having excellent results, 25 good, 12 fair, four poor. Of these four poor results, three nephrectomies were performed. In those cases in which splints were used, most remained in the hospital 14 days or longer. In those patients in whose cases neither splints nor catheters were used, the hospital stay was usually less than 14 days. There were no deaths.

Discussion of Nephrectomies

The first of the three nephrectomies was done three months after surgery. A man of 35 who had a difficult pyelolithotomy six months before, subsequently had obstruction at the site of surgery. Enthusiasm for the pelvic

flap technique resulted in an inappropriate application of the procedure. This aggressiveness resulted in nephrectomy on the fourth case in the series. The second nephrectomy was done, on the seventh case in the series, five years after vertical flap ureteropelvioplasty. The preoperative studies on this woman of 22 indicated a non-functioning hydronephrotic right kidney which at the time of surgery was found to be little more than a thin-walled hydronephrotic sac. Again enthusiasm for the technique and a desire to study the results of an adequate outflow prompted vertical flap ureteropelvioplasty, which, after two pregnancies without renal involvement, resulted in nephrectomy. The third nephrectomy was done three years after ureteropelvioplasty, on a woman of 28. Nephrectomy was necessary because of persistent pain in the right flank associated with recurrent episodes of pyelonephritis. Secondary renal surgery has not been necessary on any ureteropelvioplasties performed during the past six years.

Conclusions

Pelvic flap ureteropelvioplasty is the technique of choice for correction of dependent ureteropelvic obstruction. High ureteral insertion and ureteral stricture occur less frequently than dependent obstruction, and are best corrected by other techniques. Neither ureteral splints nor nephrostomy catheters are necessary for satisfactory surgical results. Ureteropelvic obstruction is congenital and should be detected by a more vigorous investigative policy on the part of pediatricians and clinicians in those individuals who complain of vague abdominal or flank symptoms or who experience recurrent episodes of urinary tract infection. Of 48 flap ureteropelvioplasties performed since 1951, four were failures; no failure has occurred in the past six years.◀

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Methocarbamol as Adjunctive in Comprehensive Care of Neuromuscular Disability

EUGENE J. ROGERS, M.D., *Brooklyn, New York*

►*Specific procedures, physical therapy, and medications such as methocarbamol should, whenever possible, remain the bulwark of any treatment program. These are potentiated by psychotherapeutic techniques such as encouragement, allaying of fears and anxieties, and occasionally the "laying on of hands."*◄

Muscle spasm, hypertonicity, and spasticity are clinical manifestations of varied etiologies but are rarely presenting complaints, medical care being sought primarily for amelioration of symptoms such as pain and disability, for restoration of physiologic functions, and for correction or retardation of pathologic or progressive processes. This therapeutic goal and its symptomatic approach entails a comprehensive medical program.

Evaluation of the adjunctive use of a muscle relaxant, methocarbamol,* in such a comprehensive program of rehabilitation is the purpose of this study.

*Robaxin®, A. H. Robins Company, Inc., Richmond, Virginia.

Material and Methods

Methocarbamol was used in the oral and injectable forms: the injectable drug was furnished in 10 cc. sterile ampuls containing 1.0 Gm. of methocarbamol in a 50% aqueous solution of polyethylene glycol-300 with sodium bisulfate 0.1% as preservative; the tablets contained 400 mg. of methocarbamol and 325 mg. acetylsalicylic acid.† These preparations were administered to 49 ambulatory patients (23 men and 26 women, aged 18 to 73) selected from private practice. Clinic patients were not included since a high proportion of them tend to be positive placebo reactors.[1]

These patients were chosen

†*Robaxisal®*, A. H. Robins Company, Inc., Richmond, Virginia.

1. Beecher, H. K., et al., *J. Pharmacol. & Exper. Therap.*, 109:393,1953.

TABLE 1

RESPONSE TO THERAPY WITH METHOCARBAMOL

	I.V.		I.V. & ORAL		ORAL		TOTAL
	A*	B*	A	B	A	B	
NEUROLOGIC							
Parkinsonism			1			1	2
Cerebrovascular accident	2		1				3
Multiple sclerosis		1				1	2
Other—disc syndrome, etc.	2	1			1	3	7
Subtotal	4	2	2		1	5	14
MUSCULOSKELETAL							
Bursitis, synovitis, tenosynovitis	2		1	1	3	1	8
Fibromyositis	3	1	2	1	5	2	14
Arthritis					3	1	4
Back syndrome, compression fracture, postural strain, S-I strain, coccydynia	5	1			2	1	9
Subtotal	10	2	3	2	13	5	35
TOTALS	14	4	5	2	14	10	49
%:	77%		71%		58%		

*A=Satisfactory results; B=Unsatisfactory results.

because of their pain and disability associated with physical findings of spasm, hypertonicity, or spasticity. The conditions, involving the muscular, neurologic, or articular structures or a combination of these, had existed for one day to 10½ years. Although only the prevalent diagnosis was tabulated (Table 1), most patients had multiple afflictions, and were receiving hormones, insulin, hypotensives, or mercurials as well as methocarbamol.

History and physical examination were supplemented by a urinalysis and hemoglobin determination. Tests were repeated and re-evaluations made at two-week intervals or less as indicated. All patients received physical therapy by various means, as heat, ultrasound, sinusoidal stimulation, massage and/or exercise. A total of 31 patients received the methocarbamol and acetylsalicylic acid combination, two tablets three or four times daily, and seven in this group received the supplementary intravenous administration of 10 cc. injectable methocarbamol. Eighteen patients had the intra-

venous methocarbamol alone.

Duration of therapy was one day to 17 weeks; in 28 cases (57 %), oral medication was continued for two weeks or more.

Therapeutic Effect

Results were tabulated as satisfactory or unsatisfactory. If symptomatic relief did not persist after the initial period, if improvement was not distinct, or if side effects precluded the drug's continued use, the results were considered unsatisfactory.

The final evaluation of the medication was based on the patients' total responses, including alleviation of pains and greater ease in performance of various activities, since meticulous day-by-day testing of reflex and range of motion would be unrewarding.[2]

Results

Although the number of patients is too small to permit of statistical analysis, the results justify the statement that the intravenous administration of methocarbamol appeared clinically to be a valuable adjunct in the alleviation of pain and disability due to muscular spasm, hypertonicity, and spasticity. The results are based on a comprehensive clinical approach which included psychotherapeutic support, tranquilizers, hormone-nutritional preparations, and various physical therapy techniques. The results of drug therapy are summarized in Table 1.

Of the 25 patients who received intravenous injections of 10 cc. methocarbamol (seven supplemented with the oral medication), a favorable response was obtained in 19 (76 per cent). Pain and disability were reduced within 15 to 20 minutes after the injection and the beneficial effect lasted about 10 hours. Two of the five patients reporting benefit with the combined oral and intravenous medications stated that the oral did not sustain the effect as well as the parenteral.

An additional 24 patients received only the oral medication. A favorable response was obtained in 14 of these cases (58 per cent). The combination of the oral and intravenous routes of administration elicited improvement in five of the seven cases (71 per cent).

The presentation of illustrative case histories would serve no useful purpose, but clinical observations upon secondary effects were recorded for further investigation and observation.

One patient with marked intermittent claudication due to arteriosclerotic peripheral vascu-

2. Schlesinger, E. B., *Ann. New York Acad. Sc.*, 67:833-838,1957.

lar disease reported greater ability at ambulation with diminution of the claudication. Another who formerly suffered from night cramps of the calves reported a complete remission of these symptoms while taking the tablets. A patient with arteriosclerotic Parkinson's syndrome reported marked alleviation of back pain which facilitated ambulation following intravenous injection of methocarbamol.

Side Effects

Side effects to the oral medication were reported by four of 31 patients: one guessed that the medication contained aspirin because of the similarity of her gastric upset to previous effects of aspirin; two experienced nausea, ameliorated by reduction in dosage; and one complained of profuse perspiration. Nausea in one patient precluded the continued use of the preparation.

Eleven of the 25 patients receiving the intravenous methocarbamol felt dizzy, groggy, and somewhat intoxicated for 10 to 30 minutes. These complaints abated and did not interfere subsequently with such activities as driving an auto. Extensive ecchymosis and pain resulted in one patient following a slight extravasation of the intravenous preparation. Another developed a mild thrombophlebitis of the basilar vein 24 hours after an intravenous injection. No significant changes in the blood pressures, hemoglobin or urinalysis were noted.

Discussion

Reports on the efficacy of muscle relaxants have varied with investigators. Empiric and clinical results are extremely difficult to assess even with electromyography.[2] One group[3] claimed that the combination of oral and injected placebos resulted in improvement in 82 per cent of a series of rheumatoid patients, with similar benefits in patients with psoriatic arthritis, gouty arthritis, low backache, and shoulder syndrome.

There is no doubt that emotional stimuli may profoundly affect physiologic and pharmacologic behavior.[4] The damaging of tissue may set in motion hyperexcitatory states requiring very little additional peripheral stimulation for their maintenance. Such hyperexcitatory states may become self-perpetuating.[5] It is apparent that psychologic experiences may perpetuate physical symptoms even if the two events' connection is only co-incidental.[6]

The degree of muscular involvement depends upon the

3. Traut, E. J., & Passarelli, E. W., *Med. Sci.*, 3:674-675.1958.
4. Travell, J., *Am. J. Phys. Med.*, 34:130,1955.
5. Sullivan, J. D., *Rheumatism*, 14:20,1958.
6. Hardy, J. D., et al., Pain Sensation and Reactions, Williams & Williams Co., Baltimore, 1952, p. 383.

neurogenic input, the central nervous system integrative mechanism, the transmission of these impulses through the synapses, and the status of the nervous pathways. Muscular tissue also has the innate capacity to react directly to various stimuli.

Any therapeutic program, therefore, requires a comprehensive approach. Specific procedures, physical therapy, and medications such as muscle relaxants should, whenever possible, remain the bulwark of any treatment program; these are potentiated by such psychotherapeutic techniques as encouragement, allaying of fears and anxieties, amelioration of pain, and occasionally the "laying on of hands" as in massage.

Summary

Muscle spasm, spasticity, and hypertonicity are symptoms requiring a comprehensive therapeutic approach. In a series of 49 patients, comprehensive care including physical therapy, other specific and supplementary medications, and psychotherapeutic support was furnished. Methocarbamol was found to be an effective complementary preparation in 58 per cent of patients when administered orally, and in 77 per cent of cases when injected intravenously. Considering the multiple physical problems of the patients in this study, these percentages of favorable response are quite gratifying.◀

Gastroenterologic Disorders: Treatment with Combined Psychic and Somatic Agents

Symptoms of functional bowel distress, peptic ulcer, ulcerative colitis, and other gastroenterologic disorders were treated in 102 patients with a combination of oxyphencyclimine and hydroxyzine (Enarax). Most patients were stabilized on ½ tablet four times daily. Excellent to fair results were obtained in 88 of the patients. Therapeutic failure occurred in those with tabes dorsalis, ileitis, pancreatitis, and cholelithiasis. In 29 of the 43 patients experiencing unpleasant side effects (dryness of mouth, blurring of vision, diarrhea, constipation, drowsiness), a reduction in dosage resulted in continued therapeutic effectiveness with reduction or abolition of undesirable reactions.

Hock, C. W., *Am. J. Gastroenterol.*, 34:293-298,1960.

clinical report

Treatment of Porphyria with Anti-Leprosy Drug

LEONARD D. GRAYSON, M.D.,* and
HILLIARD M. SHAIR, M.D.,* *Quincy, Illinois*

►*Two patients with porphyrin metabolism diseases were treated with thiocarbanilide, 2 Gm. daily. The patient with porphyria cutanea tarda with vesiculation improved, the one with the mixed hepatic type went into apparently complete clinical remission. No side effects were noted in these instances.*◄

Porphyria is an inborn fault of metabolism characterized by the excretion of either abnormal kinds or abnormal amounts of porphyrins.[1] The disease is divided into the erythropoietic and hepatic types, the latter being subdivided into the acute intermittent type, porphyria cutanea tarda, the mixed type, and the latent form of the disease.

Because other drugs used to combat Hansen's disease have been beneficial in the treatment of certain vesiculobullous eruptions, thiocarbanilide† was tried in two cases of porphyria with vesiculation. Case 1 was diagnosed as having porphyria cutanea tarda, Case 2 as having the mixed hepatic type.

Case 1

A man of 29 had had macules, papules, and excoriations of the hairline for 6 months. Hemorrhagic vesicles had appeared from time to time on the sternum, and vesicles were present on the fingers, forehead, and back. Occasionally some would develop on the nose. Serum protein, BSP, and CBC were normal. The cephalin flocculation test was 2-plus in 48 hours. The urine was positive (pink fluorescence) under Wood's lamp. After being treated with thiocarbanilide (2 Gm. once daily) the urine became negative and, although the patient had a few blisters, he was more comfortable. Protection against sunlight and avoidance of exposure to fluorescent light (he had previously worked in an office lighted in this way) were also prescribed.

Case 2

A woman of 29 was 7 months pregnant when the eruption started. She was seen 3 weeks later in the office. She had a vesiculobullous eruption of the knuckles, fingers, and nose related

*Department of Dermatology, Physicians and Surgeons Clinic.
†*DPT*™, Ciba Pharmaceutical Co., Summit, New Jersey.

1. Melby, J. C., & Watson, C. J., *Med. Sc.*, 821-837,1960.

to sunlight and trauma. Hypertrichosis of the hands and face was present. History revealed that she had had colitis and cramps while in high school and that she had multiple problems with constipation. The urine fluoresced bright red under Wood's lamp, Nikolsky sign was positive. Thymol turbidity was slightly elevated. The A/G and total protein determinations were normal, cholesterol level in the upper limits of normal, cephalin flocculation test normal. When the patient was given thiocarbanilide (2 Gm. once daily) the urine became negative under Wood's light and the amount of blistering diminished tremendously. This patient was also told to avoid sunlight and to avoid using sun protective creams.

Side Effects

No side effects were observed during treatment in the two patients with porphyria. In other studies on dermatitis herpetiformis, we have observed the following reactions: anorexia, bad taste, melancholy, nervousness, gastrointestinal upset, transient morbilliform eruption, and mild diarrhea.

Discussion

When used to treat[2] Hansen's disease, thiocarbanilide produces such side reactions as transient papular eruptions, mild anemia, and urticaria. Innes[3] reported that the drug, although effective, was about on the same level as DDS, and that it was not well absorbed, thus explaining the paucity of toxic reactions.

Other investigators[4] have indicated that the lack of toxicity is one of the outstanding virtues of this drug. Occasional skin eruptions were observed on high doses (6 to 9 Gm. daily). Goldman[5] reported on the effect of diphenyl thiourea in rosacea. The side effects he encountered included metallic taste, nausea, diarrhea, and vertigo.

We received a supply of DPT for use in the treatment of Hansen's disease. Because other anti-leprosy drugs (sulfones) have been beneficial in dermatitis herpetiformis, we investigated its effectiveness in this disease. The results were fairly good although thiocarbanilide was not as efficient as sulfoxone sodium (Diasone), sulfapyridine, or promacetin. The drug was used to treat other vesiculobullous eruptions, and some cases of recurrent recalcitrant vesicular eruptions of the hands have shown favorable response.

Summary

One case of porphyria cutanea tarda with vesiculation improved when treated with 2 Gm. of thiocarbanilide daily, and one case of the mixed hepatic type, given a similar dosage, went into apparently complete clinical remission. Further investigations of the effectiveness of this material in porphyrin metabolism diseases should be conducted.◀

2. Davey, T. F., & Currie, G., *Leprosy Rev.*, 27:94,1956.
3. Innes, J. R., et al., *East African Med. J.*, 34:7,1957.
4. Davey, T. F., Leprosy Rev., 1958.
5. Goldman, L., *Arch. Dermatol.*, 81:971,1960.

clinical report

Use of Nicotinic Acid-Pentylenetetrazol Combination in Outpatient Treatment of Mental Patients

ELSE B. KRIS, M.D.,* and
DAVID GERST, M.D.,* *New York, New York*

►*In a group of 91 patients with mild confusion, memory defects, inertia, or mild depression, 80 per cent were benefited by administration of a nicotinic acid-pentylenetetrazol combination. Initial dosage in most patients was three drachms daily, which was reduced gradually and then discontinued.*◄

Nicotinic acid, alone or in combination with histamine, phenobarbital, or pentylenetetrazol, has been employed for the treatment of confusional states, depressions, and psychoses.[1-6]

Pentylenetetrazol[7] acts as an intense stimulator of the higher nervous centers of the brain. While this compound acts mainly on the respiratory centers of the medulla, it is believed that motor centers and other areas are stimulated to some degree.

Nicotinic acid has been of benefit in patients with a syndrome characterized by confusion and clouding of consciousness, and in those suffering from stuporous stages or other psychoses. In addition it has been noted that nicotinic acid is effective in treatment of the dermatitis of deficiency diseases and other skin irritations. No untoward effects are produced on body temperature, blood pressure, respiratory rate, or blood chemistry. Nicotinic acid is known to improve appetite and general well-being.

Material and Methods

The use of an elixir† contain-

*Research Unit, Aftercare Clinic, New York.

1. Levy, S., *J.A.M.A.*, 153:1026,1953.
2. Thompson, L. J., & Proctor, R. C., *North Carolina M.J.*, 15:596,1954.
3. Thompson, L. J., & Proctor, R. C., *Clin. Med.*, 3:325,1956.
4. Goodman, L. S., & Gilman, A., The Pharmacological Basis of Therapeutics, 1955. Pp. 327-330.
5. Hoffer, A., *J. Clin. & Exper. Psychopath.*, 18:131-158,1957.
6. Thompson, L. J., & Proctor, R. C., *North Carolina M.J.*, 14:420-426,1953.
7. Sydenstricker, V. P., & Cleckley, H. M., *Am. J. Psychiat.*, 98:83-92,1941.

†*Nicozol*®, Drug Specialties, Inc., Winston-Salem, North Carolina.

ing three grains (0.2 Gm.) per drachm of pentylenetetrazol and 100 mg. of nicotinic acid, with compound pepsin elixir as the vehicle, was started early in 1959 on a number of patients seen in an aftercare clinic. These patients had all been hospitalized for acute psychoses. They were all well adjusted when returned to the community and were closely followed at the Research Unit of the Aftercare Clinic. Where necessary they were continued on tranquilizing drugs.

A total of 91 patients, aged 32 to 74 years, 72 women and 19 men, have been treated since the beginning of the study. The majority of these had the diagnosis of some type of schizophrenia, only a few having manic-depressive psychosis or involutional psychosis. They were divided into two groups: Group I included 45 patients (38 women and seven men) in the age group 54 to 73, all of whom, in addition to their mental condition, showed evidence of some vascular changes. Group II included 46 patients (34 women and 12 men) in the age group 32 to 50, all of whom were being treated for control of confusional states.

Results

The results achieved in both groups were very gratifying, with 80 per cent of the 91 patients showing considerable clearing up of their confusion three to four weeks after receiving one drachm of Nicozol three times daily. Appetites improved, memories were better and they stated that they felt better generally than they had for a long time. Their outlook on life was a more cheerful one and their adjustment to their immediate environment showed considerable improvement.

The following case history illustrates best the results achieved in Group I with administration of the medication.

Case Report

A man of 68, diagnosed as having involutional psychosis (melancholia), had been hospitalized for eight months. He had returned to the community in August, 1958, and had made a good adjustment while being maintained on 25 mg. of proclorperazine (Compazine) daily. After several months at home he refused to continue medication, stating that he felt drowsy and that he really did not need any medication. In March, 1959, he became quite depressed, confused, did not wish to go out, but stayed home most of the time and was idle. Placed first on Nicozol alone, he showed some improvement but had difficulty sleeping. After reserpine[8] was added to the medication, he continued to improve, his memory became good, he was no longer depressed, and his appetite and general sense of well-being were greatly improved. Continued on this medication for three months, he maintained his improvement; the elixir alone was continued for another three months. Since discontinuation of medication, improvement has been maintained. No side effects were noted, either during

8. Proctor, R. C., et al., *J. Am. Geriatrics Soc.*, 6:4,1958.

the first or second stages of medication.

Some (particularly the older patients in Group I) required medication at night in order to promote sleep. In these cases 400 mg. of meprobamate (Miltown), 50 to 100 mg. of chlorpromazine, or an equivalent dosage of another phenothiazine enabled the patient to fall asleep.

In some instances patients responded better when the elixir being investigated was given in a divided dosage, one drachm in the morning and one drachm at noon. These patients complained that when taking medication in the later hours of the afternoon, they would lay awake for long hours.

Case Report

An illustrative case in Group II is that of a woman of 43 who had been thrice hospitalized for two- to five-month periods because of hallucinations, delusions, and persecutory trends. When released following her last hospital residence in May, 1960, she was free of active psychotic symptoms, but for the first eight weeks at home she was depressed, confused, forgetful, and unable to take care of her household duties. Given three drachms of the elixir daily, she showed good improvement by the end of the second week. The patient commented that she felt "so much better now. I feel like I'm myself again, I can take care of my work at home and go shopping without forgetting to get the things I had gone out to get." She took the medication for six weeks, the dosage gradually being reduced from three drachms daily to one drachm daily and then discontinued. Her improvement has been maintained.

Side Effects

Two patients in Group I and one patient in Group II complained of flushing of the face and a general feeling of heat, and discontinued medication. Another patient who experienced similar effects discontinued medication, then was started on Nicozol with reserpine (two tablets daily) without further unpleasant effect. No other side effects or complications which could be attributed to the elixir were noted.

Summary and Conclusions

In a group of 91 patients with mild confusion, memory defects, inertia, or mild depression, 80 per cent were benefited by administration of Nicozol. Initial dosage in most patients was three drachms daily, this being gradually reduced and finally discontinued. Four patients complained of mild flushing and a feeling of heat; all but one refused to continue medication. The fourth tolerated Nicozol with reserpine without evidence of the previous symptoms.◀

Tolbutamide in Acne

MALCOLM C. SPENCER, M.D., *Danville, Illinois*

►*A double blind study in 20 women and 19 men with grades I through IV acne was conducted with tolbutamide, 500 mg. twice daily, and a placebo. No significant difference in response to routine treatments for acne was observed during the trial. No side effects attributable to the medication were observed.*◄

A double blind study was conducted with tolbutamide* as a supplementary treatment for acne in a group of private patients. Established treatments for acne were continued during this period of observation. The general health of those treated was good; none had diabetes mellitus, or any other systemic disease. Routine urinalysis before and after each course of treatment was negative for reduction. No side effects, such as gastrointestinal disturbances or allergic skin manifestations, were observed during the time of treatment.

A total of 39 patients (20 women and 19 men) were treated. Of this group, 33 were adolescents while six were older. Twenty-eight had milder forms of acne classified as grade I or grade II. Eleven had more severe forms classified as grade III or IV.[1]

Identical tablets of tobutamide and a placebo were used. A dose of 500 mg. twice daily was given for one month with one preparation in a group of 11 and with the other tablet for one month in a group of 12. Alternate use of each tablet, changing monthly, was followed in a group of 16 for periods of two to five months.

No significant difference in the response to routine treatments for acne was observed while tolbutamide or a placebo was being taken. This observation would tend to emphasize the fact that while tolbutamide is structurally similar to sulfanilamide, it has no bactericidal effect and is useful only as a hypoglycemic agent.[2]◄

*Orinase®, The Upjohn Co., Kalamazoo, Michigan.

1. Pillsbury, D. M., et al., Dermatology, W. B. Saunders Company, Philadelphia, 1956, p. 810.
2. DeLawter, D. E., & Moss, J. M., *Am. J. Nursing*, 58:1106-1108,1958.

clinical report

Treatment of Vaginitis with Triclobisonium Chloride Vaginal Cream

PHILIP GREEN, M.D.,* *Newark, New Jersey*

►*Degree of culture growth present was used to evaluate results of using a vaginal cream in treating vaginitis in 80 ante- and postpartum patients. Of 71 in whom followup studies were done, 56 had excellent response, six had fair improvement and nine showed no improvement. Patients found the cream easy to use.*◄

Clinical symptoms and bacteriologic cultures are both important in establishing the diagnosis of vaginitis. The clearing of the clinical manifestations is of prime importance, but once accomplished, attaining a sterile culture is not necessary. Döderlein's bacillus, a genus of gram-positive lactobacillus, constitutes part of the normal flora of the vagina. Other types of organisms such as streptococci, staphylococci, diphtheroid organisms, E. coli, yeast cells and protozoa are also found in the normal vagina.[1] In a comparative study on patients with vaginitis,[2] it was concluded that qualitatively there was no difference in the types, and quantitatively no general increase in the numbers of organisms between the normal and abnormal individual. However, certain organisms were observed in greater or lesser numbers in the two groups, the significant differences being in the greater incidence of trichomonads, nonhemolytic streptococci, and pleuropneumonia-like organisms in the vaginitis patients. While the trichomonads were definitely considered pathogenic, it was doubtful that the pleuropneumonia-like organisms caused disease.

Complete eradication of trichomonads, one of the most frequent causes of vaginitis, is difficult because there is often cross-infection between spouses. Vaginitis is known to be more prevalent among the lower in-

*Martland Medical Center, Newark, N.J.

1. Adair, F. L., Obstetrics and Gynecology, Vol. I, Philadelphia, Lea and Febiger, 1940, p. 148.

2. Hunter, C. A., Jr., & Long, K. R., *Am. J. Obst. & Gynec.*, 75:865-871,1958.

com group of the population,[3] the group that is least able to cooperate in any complex treatment routine. Ideally, treatment should be continued until cultures become sterile and the organisms are eradicated in both partners. Practically, the clinician is often satisfied if one partner follows the treatment prescribed. Adequate followup is necessary until either a negative culture is obtained and maintained or the patient has been asymptomatic for a sufficient time.

A simple, effective treatment for vaginitis is still being sought. Several investigators employing triclobisonium chloride,* a new topical antimicrobial, have indicated its usefulness in clearing vaginal discharges.[4,5] A study was therefore undertaken on antepartum and postpartum clinic patients, in whom the incidence of cross-infection is particularly high.

Materials and Methods

Triclobisonium vaginal cream was prescribed for use by 80 patients (66 antepartum and 14 postpartum) selected on the basis of symptomatic vaginal discharge at the time of their initial visit. All pregnant patients were between 16 and 32 weeks gestation. Vaginal examination was made and two swabs placed into the vaginal discharge; from one a smear was made and the other was placed in a test tube of sterile saline which was kept at room temperature or slightly higher. The slides were stained by the gram stain and the predominant organisms noted. The saline solution was used for hanging drop slides to detect Trichomonas vaginalis and monilia (after adding 10% K OH).

All patients with symptomatic discharge were given one full course of triclobisonium vaginal cream with instructions to use 5 cc. morning and night for a 10-day period. The medication was inserted into the vagina by means of a disposable tampon-like applicator. Patients were re-examined at two, four, or six weeks and some at both two- and four-week intervals. At the followup visit(s) the patient was asked her opinion of the medication, any complaints, evidence of sensitivity, allergy or complications. The discharge was re-examined as to amount, and repeat swabs, gram stains, and hanging-drop slides were made for the type of organism. Six patients were given two courses of the medication when their symptoms continued and positive

*Triburon®, Hoffmann-LaRoche Inc., Nutley, N. J.

3. Gardner, H. L., et al., *Am. J. Obst. & Gynec.*, 73:1080,1957.
4. Mulla, N., & McDonough, J. J., *Ann. New York Acad. Sc.*, 82:182,1959.
5. Savel, L. E., et al., *Ann. New York Acad. Sc.*, 82:186,1959.

smears were obtained. Final evaluation was based on persistence or non-persistence of discharge.

Results

The first five patients were examined in two weeks and all smears found negative. For the majority of the remainder (35) the examination was then postponed until four weeks following onset of treatment. After noting that a number of patients were returning with positive smears at four weeks, the last 12 patients were examined at two- and four-week intervals. Fifteen patients did not return at the appointed time and therefore the intervals varied up to six weeks. Based on the findings at the second visit, six patients required two courses of medication.

Most of those who were treated responded with a great degree of clinical improvement, if not complete cure, regardless of whether they followed instructions. Most used the medication once, rather than twice daily.

Of the antepartum patients 49 had good results, six fair, seven poor, and four were lost to followup. Seven of the postpartum patients had good results, two poor and five did not return for report and re-examination. Of the 71 patients who were considered after completion of therapy, 78.9 per cent had good, 8.4 had fair, and 12.7 had poor results.

Gram-positive cocci were observed on smear in 54 patients, gram-positive bacilli in 46, trichomonas in 36, and gram-negative bacilli were observed on smear in 30 patients before treatment. Other organisms were also seen but in fewer patients (Tables 1 and 2). The great majority of patients had a combination of organisms. Gram-stained slides examined for possible change of vaginal flora showed no correlation between clinical and bacteriologic results of treatment. Patients were classified solely on evaluation of discharge both by patient and re-examination of smear. Twenty-two patients reported good clinical results, i.e., decrease of itching and burning, but still had positive trichomonal smears.

One patient discontinued treatment because of cervical bleeding and another developed a general body itch for a short period of time; however, relation of these symptoms to the medication was not definitely established. Nine of the ante- and three of the postpartum patients found the cream messy to use. This information was not volunteered but was elicited on questioning. Otherwise it was found acceptable by patients.

Discussion

The reported incidence of T

TABLE 1

ORGANISMS IDENTIFIED ON VAGINAL SMEARS OF ANTEPARTUM PATIENTS

ORGANISM	STAT (66 PATIENTS)	2 WEEKS (18 PTS.)	4 WEEKS (38 PTS.)‡	6 WEEKS (15 PTS.)**
Trichomonas	32	9	15§	8††
Monilia	5	1†	1†	0
Gram-pos. cocci	42	11	19	6
Gram-pos. bacilli	38	9	24	10
Gram-pos. diphtheroids	1	0	0	0
Yeasts	3	0	0	0
Gram-neg. cocci	3	0	0	0
Gram-neg. bacilli	25	8*	10	5

*1 possible contaminant
†same patient
‡8 patients had repeat cultures at 2 and 4 weeks—30 had second smear cultures at 4 weeks
§2 of these positive smears were positive for trichomonas stat and at 2 weeks
**2 patients had smears taken at 4 and 6 weeks
††2 of these patients had positive smears at 4 weeks also.

TABLE 2

ORGANISMS IDENTIFIED IN VAGINAL SMEARS OF POSTPARTUM PATIENTS

ORGANISM	STAT (14 PATIENTS)	4 WEEKS (9 PATIENTS)
Gram-pos. cocci	12	8
Gram-pos. bacilli	8	4
Gram-neg. bacilli	5	1
Yeast	1	
Trichomonas	4	2

vaginalis in women, whether symptomatic or asymptomatic, is about 25 per cent. For C. albicans the figure is 10 per cent for nonpregnant, 30 per cent for pregnant women.[6] In our group of pregnant women with clinical signs of vaginitis, 45 per cent had T. vaginalis as determined by careful laboratory tests. What was surprising was that less than 7 per cent (five patients) had monilial infections and four of these were cleared following therapy. A third organism, H. vaginalis (a gram-negative rod), has been considered by some investigators[7] to cause nonspecific vaginitis. Others[8] found a gram-negative bacillus conforming to

6. Lammert, A. C., *Postgrad. Med.*, 23:280, 1958.

7. Gardner, H. L., & Dukes, C. D., *Am. J. Obst. & Gynec.*, 69:962-976,1955.
8. Heltai, A., & Taleghany, P., *Am. J. Obst. & Gynec.*, 77:144-148,1959.

the description of H. vaginalis in the vaginal flora, but never isolated it in pure culture or found evidence that it was the specific agent in nonspecific vaginitis. In our study 36.5 per cent of the patients had gram-negative rods. In the followup cultures we did note a significant disappearance of small gram negative cocco-bacillary forms, probably of the Hemophilus group. It is possible that these were the causative organism in many of the patients treated. Since the difference between normal and abnormal vaginal flora is one of degree of culture growth present, clinical cure seemed to be the most logical basis for evaluating the results of therapy.

The patient who experienced cervical bleeding used the medication only once. In vaginitis the cervical os is usually red and friable and occasionally bleeds easily. Apparently the applicator caused sufficient friction to start the bleeding and the patient became frightened and discontinued the use of the drug.

Summary

Triclobisonium vaginal cream was used once or twice daily for periods of 10 days in the therapy of 66 antepartum and 14 postpartum clinic patients. Final evaluation was obtained on 71; nine were lost to followup.

Of the patients who used the drug as directed, 87.3 per cent showed improvement. The vaginitis was cleared in 56; fair improvement was noted in six, and nine showed no improvement following treatment.

Bacteriologic tests could not be correlated with clinical results.

This form of treatment was esthetically acceptable and patients found the medication easy to use.◀

Behavioral Disorders: Treatment with Tranquilizer and Psychic Energizer

Using the double blind technique, 75 hyperactive, poorly integrated children were divided into groups of 25 and were given a psychic energizer (deanol) in doses of 50 mg. twice daily, a sedative (trimeglamide) in doses of 250 mg. twice daily, or a placebo. Treatment was for 3 months. Deanol was found to be useful in improving performance in children with problems of behavior and trimeglamide was of value as a mild sedative in such children. The placebo had a minimal effect. No side effects were observed with any of the medications.

Geller, S. J., *J.A.M.A.*, 174:89-92,1960.

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Acute Primary Ulcer of the Small Intestine

ROBERT P. KOENIG, M.D., *Cincinnati, Ohio*

►*Acute, primary, or simple ulcer of the small intestine beyond the duodenum is rare. Only 139 cases have been described in the literature through 1958. This case is unusual, in that careful surgical exploration revealed an otherwise undiagnosed lesion responsible for four previous bouts of bleeding.*◄

Symptomatology of primary ileal or jejunal ulcer is vague, diagnosis usually being made at postmortem examination or during surgical exploration.[1-9] Suspicious symptoms include melena, recurrent partial small bowel obstruction, peptic ulcer symptoms without confirmation by x-ray, and vague abdominal symptoms. Some of these ulcers obstruct and some patients have multiple complications.

1. Bockus, H. L., *Gastroenterolgy*, 11:145-147,1944.
2. Brown, P. W., & Pemberton, J. de J., *Proc. Staff Meet. Mayo Clin.*, 11:259-261, 1936. *Ann. Int. Med.*, 9,1648,1936.
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8. Shea, P. C., Jr., *J.A.M.A.*, 146:1490-92,1951.
9. Strouth, B. P., & Edwards, J. P., *Northwest Med.*, 55:1350-60,1956.

Location and Incidence

Primary ulcers have been reported to occur throughout the small intestine. There is no relationship to the mesenteric attachment. Few of the reported cases were associated with lymph node enlargement. Most of them are acute ulcers, and as a rule there is no scarring indicative of chronicity. Several cases of small clusters of primary ulcers have been reported,[3] but the majority of the lesions are solitary.

Most cases of primary ulcer have been found to occur in the ileum (62 per cent of all cases reported through 1948[4]), usually near the ileocecal valve. Males have been affected three times more often than females. The average age of occurrence was 43 years, although one patient was age one year and another 77. The incidence at Mayo Clinic has been estimated at one per 100,000 clinic patients.[4]

Diagnosis

Before the diagnosis of pri-

mary ulcer can be made, several known causes of bowel obstruction must be excluded. There must be no indication of heterotopic gastric epithelium or pancreatic tissue or Meckel's remnant containing gastric epithelium. Syphilis, tuberculosis, typhoid, intestinal parasites, and other infections must be excluded. In order that the ulcer be considered primary, the following must also be excluded: abdominal trauma, tumor with concomitant ulceration, uremia, and previous gastroenterostomy.

Pathology

Pathologically these ulcers resemble peptic ulcers of the duodenum.[3] Usually the ulcer is solitary with well defined boundaries and little adjacent inflammatory reaction. The defect appears to be in the mucosa with extension into deeper layers of the bowel wall. Extensive accumulations of lymphoid tissue have been found in the wall of the bowel near the ulcer. Rarely chronic inflammatory changes appear in the mesenteric lymph nodes as in this case.

It is fairly certain that these ulcers seldom heal spontaneously. They may become chronic and have acute exacerbations. It was not until 1948 that one was found incidentally at necropsy. One has been observed to be in the process of healing when an adjacent ulcer was actively bleeding. Recurrence after resection does occur, but it is rare.

The cause of primary ulcers of the small intestine is unknown, but peptic digestion, proximity to the ileocecal valve with reflux, trauma, and psychosomatics have been considered as possible causes.

Mortality

These ulcers are dangerous. In one series the overall mortality is 6 per cent. Of the 130 cases reported up until 1958, 81 per cent perforated and 54 per cent of these died. Nine per cent obstructed and 37 per cent died. Bleeding of the ulcer occurred in 15 per cent.[3,4]

Case History

The patient is an active 24 year old single engineer who is doing well following surgery for his sixth bout of bleeding. This patient was first examined in October, 1957, with the complaint of bleeding "like cranberry sauce," and for three days this material colored his stool. He ate popcorn and drank beer and after that his bowel movements were black and tarry with some red intermixed. He had flatulence and weight gain on a bland diet. Distention, discomfort, lower abdominal fullness and indigestion occurred one to two hours after eating, but he had no pain.

His past history is significant in that there was reported to have been bright bleeding per rectum about age four years. A benign right breast tumor had been removed at age 12 years with no sequela. He was an only child whose mother died when he was 8

years old. He denied serious emotional problems.

Physical examination was normal except for the finding of blood in his stool and abdominal distention without tenderness. He was given three blood transfusions, treated as though he had a duodenal ulcer, and discharged.

From 1957 to January 1959 the patient was followed closely on a bland diet, anticholinergics, and antacids. He did well and was free from symptoms when he adhered to the prescribed medical regime.

In January 1959 the patient was admitted to the hospital following near collapse about 3 a.m. He was given 6 units of blood, and bleeding diminished. The stool became brown, and physical examination was normal except for anemia, slight tenderness in the epigastrium, and distention of the lower abdomen.

He was prepared for surgery. Exploration revealed a normal duodenum but an ulcerating lesion was found in the terminal ileum 27 centimeters proximal to the ileocecal valve. (Figure 1.) This lesion was resected, and the pathologist's report was a follows: The segment of the small intestine is 23 cm. long. One node has been previously removed from the attached wedge of mesentery. The remaining nodes are enlarged, soft and tan. The proximal segment is dilated and there is an abrupt transition 10 cm. from the distal end where the lumen is constricted. Approximately 3 cm. proximal to this point and on the mesenteric border is a small ulcer 1 cm. in diameter, around which the mucosa is puckered. The underlying wall is thickened, and at this point mesenteric fat extends onto the serosa of the intestines.

Microscopic Examination: Multiple sections are taken through the ulcer. The base is necrotic and covered with neutrophiles. The submucosa and muscularis show varying degrees of fibrosis, capillary proliferation and the presence of a mixed cellular infiltrate. Intestinal mucosa is identified up to the margin of the ulcer and there is no evidence of any ectopic epithelium of either gastric or pancreatic origin. The pathogenesis is undetermined. The appendix is identified.

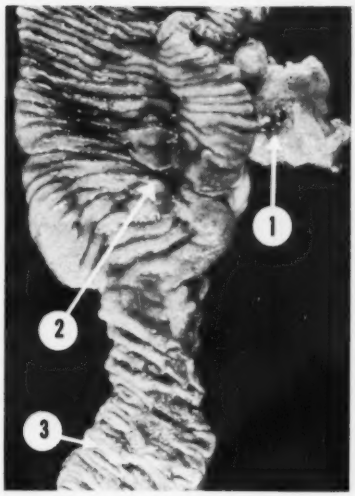

FIGURE 1

Resected segment of small intestine showing: (1) Lymph node (nonspecific inflammation); (2) Primary acute ulcer of ileum; (3) Constriction (distal).

Reports of previous x-rays and of two gastrointestinal series following surgery are still confusing. At the time of resection, the surgeon examined the stomach and duodenum and felt that there was no abnormality, nor was there evidence of blood in this region. The gastrointestinal series 10 days after resection of the ileum was reported as follows: "Colon and ileum show anastomosis site. The upper G. I. series shows a small active duodenal ulcer as noted in 1957." X-Rays taken in 1954 showed "Irritable duodenal bulb, normal small bowel," and one week later "Definite constant defect of the lesser curvature of the duode-

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num bulb and a small active ulcer." In 1956 a normal G. I. series was reported.

Since surgery this patient has done well and has had no gastrointestinal disease through March 1961, a 2-year followup.

Discussion

A case history of a young man with a solitary and chronic ulcer of the terminal ileum is presented. The diagnosis of this lesion is usually made at surgery. Symptoms usually depend upon complications. Otherwise, as was the case with this patient, there is minimal symptomatology. X-ray has been of no value in these cases.◀

Ohio M.J., 56:495-496,1960. Reprinted with permission of the editor.

Staphylococcal Colonization of Newborn Infants

Studies were made in 2 hospitals when nursery infections were not occurring to determine the rate and sequence in which various body areas of the newborn infant acquire coagulase-positive staphylococci. In one nursery, rapid colonization of all infants by relatively few strains suggested acquisition from a common source, associated perhaps with inadequate disinfection of nurses' hands. In the other nursery relatively few infants acquired staphylococci, colonization proceeded more slowly, and a large variety of strains appeared successively over a long period. Skin and rectal cultures usually became positive before those from the nose, throat, and eye. Colonization of the groin and axilla preceded that of the umbilical cord in one nursery and followed it in the other nursery. Phage typing demonstrated that different strains of staphylococci often colonized different body sites of an individual infant, 2 strains sometimes being detected in a single site.

It is concluded that:

1. The carrier state of the newborn can be assessed only by culturing many body sites and by phage typing many colonies.

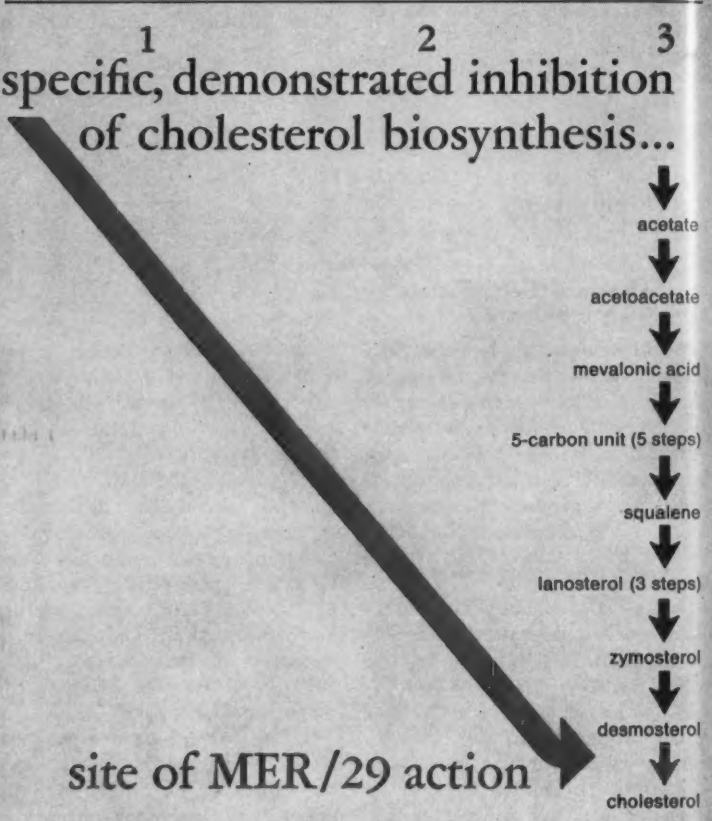
2. Cultures of skin, rectum and umbilical cord are likely to be more informative than nasal cultures, the nose often being colonized last.

3. The culture procedure most likely to portray the carrier state may have to be determined independently for each nursery.

4. Because of the extent of colonization, it may be difficult to prevent acquisition of hospital strains by applying bacteriostatic substances to the umbilical cord stump or portions of the skin.

Hurst, V., *Pediatrics*, 25:204-214,1960.

HOW MER/29 DIFFERS FROM OTHER CHOLESTEROL-LOWERING MEASURES



1. The primary, the *only* known action of MER/29 is to lower the total body pool of sterols (serum and tissue); no effect on any other system or organ reported to date.

2. "Using each patient as his own control, the peak *total* sterol radioactivity after injection of mevalonic acid-2-C^{14} was compared on and off MER/29. As much as a 50 per cent inhibition on MER/29 was observed in some patients."
—Steinberg, D.; Avigan, J., and Feigelson, E. B.: Circulation 22:663 (Oct.) 1960.

3. "Studies of lipid metabolism have stressed the importance of cholesterol biosynthesis, as opposed to cholesterol intake, in determining cholesterol balance."
—National Heart Institute: Diet, Hormones, and Atherosclerosis..., Bethesda, Md., U.S. National Institutes of Health, 1958.

...leading to specific, demonstrated advantages in cholesterol-lowering therapy

particularly in patients with coronary artery disease, generalized atherosclerosis, and other conditions thought to be associated with abnormal cholesterol metabolism

MER/29 REDUCES CHOLESTEROL IN AS MANY AS 8 OUT OF 10 PATIENTS: MER/29 reduces both serum and tissue cholesterol without strict adherence to diet. Although some physicians prefer to use MER/29 in conjunction with controlled diets, cholesterol can be reduced successfully without such limitation.

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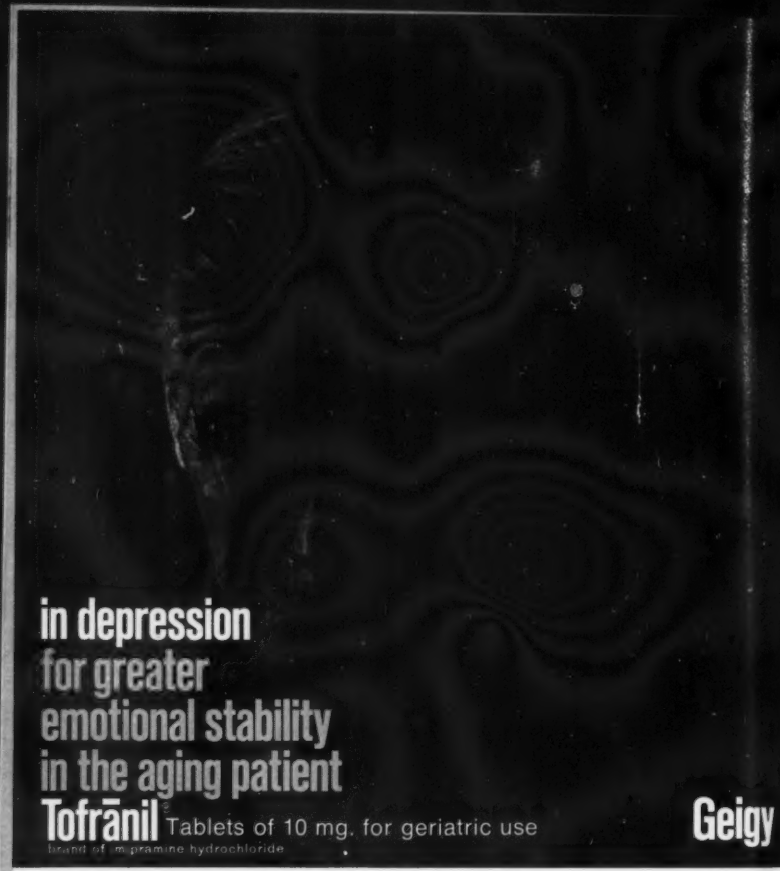

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References: 1. Cameron, E.. Canad. Psychiat. A. J., Special Supplement 4:S160, 1959. 2. Christe, P.. Schweiz. med. Wchnschr. 90:586, 1960. 3. Schmied, J., and Ziegler, A.: Praxis 49:472, 1960.

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Prolonged Survival of a Bone Marrow Graft Resulting in a Blood Group Chimera

J. O. W. BEILBY, B.M., *Middlesex, England*

►*After being treated with chlorambucil, a patient with Hodgkin's disease had a marked fall in hemoglobin, white cells, and platelets. Following transfusion of 40 ml. of marrow obtained from the patient's sister, steady improvement took place. The marrow graft has survived nine months.*◄

A woman of 30 was first seen in 1955 when she felt well and had no abnormal signs apart from two firm, enlarged, adherent lymph nodes in the left supraclavicular region and one firm mass behind the lower end of the right sternomastoid muscle. Her illness had started two years previously with a swelling above the right clavicle. A biopsy six months later reportedly showed changes suggestive of Hodgkin's disease. In 1954, more swellings developed above the left, and a small swelling reappeared above the right, clavicle. A biopsy in 1955 showed replacement of the lymph node by tissue characteristic of Hodgkin's disease. A four-week course of radiotherapy was given, using x-rays generated at 230 kv, half-value layer 2.4 mm. of copper. A skin dose of 3600 *r* to the supraclavicular regions and a tumor dose of 4730 *r* to the upper mediastinum were given. The swellings disappeared. Two years later an enlarged node became palpable in the left axilla and was treated by a further course of radiotherapy.

Chlorambucil Associated with Fall in Hemoglobin

The patient remained well until 1958, when night sweating and pruritus became distressing and an enlarged lymph node became palpable in the left axilla. Treatment was begun with chlorambucil, 5 mg. twice daily, and one month later the patient reported that she was free from the night sweating and pruritus and that the axillary swelling had disappeared. The dose was reduced to 5 mg. once daily and stopped three months later; the blood

count was not affected by the drug. The pruritus recurred five weeks later and treatment was started with aminochlorambucil, 5 mg. twice daily. After one month the irritation had cleared completely, and the dose was reduced to 7.5 mg. daily. Seven days after the dosage was reduced, the blood showed a marked fall in hemoglobin level, white cells, and platelets, and administration of the drug was stopped. The patient had no complaints, and no measures other than close observation were thought necessary. One week later she was admitted to hospital complaining of lassitude, malaise, and sore throat. She was pale and sweating, with dyspnea appearing on even slight exertion. She had bruising of the legs and arms and petechial hemorrhages of the skin, lips, and buccal mucosa.

On admission, hemoglobin was 7.6 gm., red blood count 2,400,000, white blood count total, 150, with neutrophils 12%, lymphocytes 58%, monocytes 26%, eosinophils 4%, and platelets 17,000. Treatment had been started the day before with prednisone, 10 mg. three times daily, and on admission, penicillin, 500,000 units every eight hours was given. Bone marrow examination showed extreme hypoplasia, early normoblasts, 0.5%; reticular cells, 12.5%; megalokaryocytes, none seen; myelocytes, 0.5%; methamyelocytes, 1.0%; polymorphonuclears, 1.0%; eosinophils, 2.0%; lymphocytes, 52%; monocytes, 16.5%; and plasma cells, 14.0%.

Injection of Bone Marrow

During the next four days transfusion of four pints of blood (two fresh and two bank) brought the hemoglobin level to 11 gm., but there was no improvement in the clinical picture and the white cell and platelet counts continued to fall. The total white cells fell to 25 and platelets to 500, and a marrow transfusion was given.

From the patient's sister, 40 ml. of marrow was obtained by means of multiple punctures from both ilia and sternum. The fatty material coming to the surface was removed by aspiration, the remaining material containing 1.1 by 10 nucleated cells being injected intravenously into the median cubital vein of the patient.

The next morning the patient looked and felt better, her only complaint being a tiresome sore throat. From this day she improved steadily, and there was a gradual rise in the white blood cell and platelet counts. She was discharged symptom-free, with hemoglobin 66%, white blood cells 2620, and platelets 170,000. The blood continued to improve,

and 16 weeks after the marrow transfusion it was within normal limits; nine months later she was still well.

Not only is the present case unique, so far as is known, in the prolonged survival of the graft, but the combination of manifestations in the hemopoietic and antibody-producing systems is most remarkable and difficult to explain. It is difficult to account, on the one hand, for the temporary marrow aplasia and the continued tolerance of several blood-group antigens, including the potent D antigen, and, on the other hand, for the persistence of the normal Anti-A and Anti-B in the serum and the absence, except perhaps for the sore throat, of any signs of intercurrent infection.◀

Brit. M.J., 1:96-99,1960.

Colloidal Oatmeal in Atopic Dermatitis of the Young

The preparation used in this study (Aveeno) is obtained by a special milling process involving separation of the colloidal fraction from the whole oat grain. The preparation contains 46% starch, 24% protein, 9% oil, 0.03% crude fiber, and 8% moisture. It is a dry powder stable under ordinary storage and is readily miscible in both hot and cold water.

The 41 cases studied were drawn from private practice and from a dermatology clinic outpatient department. Ages of the patients were 2½ months to 18 years, 13 being aged one year or less. The atopic dermatitis varied in severity from mild involvement of the face to severe involvement of the entire body. The colloidal oatmeal preparation was used in daily baths or as cold wet packs, made by adding one tablespoon to a quart of water and mixing thoroughly. In the majority of cases it was used in conjunction with other topical and internal medications.

Results showed that in 29% of the cases the dermatitis cleared completely, in 22% there was significant and in 41% some clearing, and in 8% there was no improvement. The preparation is considered a valuable contribution to therapy of this condition. Improvement usually occurred in one to three weeks. In many cases in which other medications produced meager or no results, there was rapid improvement when colloidal oatmeal baths were added with no change in the prior medications.

Sompayrac, L. M., & Ross, C., *J. Florida M.A.*, 45:1411-1412,1959.

Prevention of Accidental Poisoning of Children

GORDON D. JENSEN, M.D., and
WESLEY W. WILSON, M.D., *Seattle, Washington**

►*Under optimal conditions, with parents and the public aware of all hazards, 66 of these 100 poisonings were preventable. Of 24 children poisoned by aspirin, 3 took it from a medicine chest, 1 from the mother's purse and 1 from a car, the aspirin in the other 19 cases having been used recently and not put away.*◄

In a study of 100 cases emphasis was placed on the circumstances surrounding these accidents in the hope that knowledge of the natural history of accidental poisonings of children would lead to more effective prevention. Only four of the children were more than age four, 46 being between age one and two and 32 between age two and three. Although only 22 had a history of a serious accident, 25 had been poisoned before, seven more than once.

Substances Ingested

Among the agents responsible for the poisonings, aspirin was the chief offender, accounting for 24 of the 34 poisonings by internal medicines. The agents were solvents or hydrocarbons in 21 cases (paint thinner accounting for 10 of these), poisonous plants in 14 (nightshade accounting for six of these), pesticides in nine, household agents in eight, external medications in six, cosmetics in four, and miscellaneous chemicals in four.

Places Found

More than a third of these accidents occurred outside the house, the most common sites within the house being kitchens and bedrooms. Only four children took the poison from the medicine cabinet, 38 picking it up from the floor or the ground, 27 others having to reach or climb to get it and 17 getting it out of an unlocked cupboard or other piece of furniture. Two children got into "child-proofed"

*From the Department of Pediatrics, University of Washington School of Medicine.

furniture, a boy of three by unlocking a desk and an infant of 25 months by untying a rope holding cupboard doors shut. Adults were watching or were within earshot of 78.

Circumstances Leading to Poisoning

Three situations, noted repeatedly, accounted singly or in combination for 86 of the 100 poisonings:

1. In 26 instances some person other than a parent was involved, either by helping the victim get the poison or by inadvertently leaving it exposed.

2. In 31 instances parents did not think the child could do whatever was required to get the poison, such as climbing, opening a door, or unscrewing a cap.

3. In 53 instances the potential poison was not in its usual place, either because it was being used, because someone other than a parent had left it exposed, or because the parents themselves were careless.

Prevention

Poisoning was judged preventable in 46 cases if parents had taken precautions recommended in baby books and available safety publications, in 57 cases if in addition parents had recognized the need to keep all poisons beyond the reach of young children even when supervised, and in 66 cases if in addition persons had been aware of the presence of poisonous berries and had removed them. Most parents of these children appeared to have some degree of safety consciousness and to have tried to provide a safe place to keep potential poisons, so that specific advice based in the most common circumstances under which poisonings occur would have helped to prevent these accidents.

Such a campaign should emphasize the following:

1. Parents must never assume that their children cannot climb on chairs, untie knots, open doors, or unscrew caps.

2. Failure to put dangerous substances away after use is a leading cause of poisoning.

3. There is no substitute for continued vigilance and careful supervision of the toddler.◀

Pediatrics, 25:490-495,1960.

Periarthritis of the Shoulder

G. C. LLOYD-ROBERTS, F.R.C.S., and
P. R. FRENCH, F.R.C.S., *London, England*

►*Of 33 patients having this condition of painful and limited shoulder movement, 20 received intra-articular injection of hydrocortisone coincident with manipulation. The others received oral cortisone. Patients in the first series recovered sooner, most within six months. In the second series fewer than half responded.*◄

Periarthritis, or capsulitis, of the shoulder is characterized by severe pain and progressive limitation of movement of unknown cause. In most cases the symptoms increasingly dominate the patient's activities and interfere with his sleep for many months. The pain and spasm gradually abate and the shoulder becomes stiff (frozen shoulder). Movement usually recovers slowly until full function is regained with either a normal range of movement or limitation so trivial as to cause no disability.

Diagnosis is made on:

1. Pain in the shoulder for at least three months.

2. Inability to lie on the affected shoulder.

3. Loss of at least half the normal range of external rotation as measured with the arm at the side, the forearm in supination, and the elbow flexed to 90°.

Etiology is vague except in those cases that follow a severe injury. There are thickening and contraction of the capsule, which becomes adherent to the head of the humerus, and adhesions between opposed synovial surfaces, particularly in the inferior part of the joint. Similar changes are sometimes found in the bursa. Reparative inflammatory changes are shown in the capsule.

Clinical Study

Thirty-three patients fulfilling the criteria for this condition were treated. Of these, 20 received an intra-articular injection of 25 mg. hydrocortisone at the time of forcible manipulation to the limits of safety under anesthesia. The surgeon concentrated first on the restoration of external rotation with traction

a pair of cardiac patients:

Patients portrayed by professional models

both are free of pain—but only one is on

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and followed this by abducting the arm while an assistant held the scapula in a neutral position. The manipulation was followed by supervised active movement in the physiotherapy department. The remaining 13 patients received 2.5 gm. cortisone by mouth over a period of one month, together with supervised active movements. Patients in both series were examined monthly for at least nine months or to recovery if this occurred sooner.

One patient receiving hydrocortisone failed to attend regularly for examination and has been excluded, reducing this group to 19.

Results at One Month

In the hydrocortisone series eight (43%) were able to lie on the affected side, as compared with three (23%) in the cortisone series. Six of the former but none of the latter had full external rotation.

Late Assessment Results in Terms of Total Disability

In both series tabulation was made of the number of recovered cases one year from the onset of symptoms and the results three months after treatment began in those patients accepted between three and six months after onset of symptoms. Also included were the control group already mentioned who received neither cortisone or manipulation with hydrocortisone.

Results favor treatment with hydrocortisone, but the difference is less convincing when both groups are compared one year from the onset of symptoms regardless of the time at which treatment began after the initial three-months waiting period. However, the results in those patients treated between three and six months from the onset of symptoms swing strongly in favor of the hydrocortisone series. Any case in which recovery is not complete within six months of treatment was regarded as representing a failure of the method.

In the hydrocortisone series, four of the 19 patients failed to respond in six months. Of these, two subsequently recovered, one 11 months and the other 14 months after the injection and manipulation (which in these patients did not seem to influence the outcome). One remains in pain after 30 months, and although one is working as a hospital porter he still cannot lie on his shoulder 18 months after treatment.

Seven of the 13 patients in the cortisone series failed to respond in six months. Two recovered later, one nine and the other 12

months after oral cortisone. One was in pain after one year and one recovered after a manipulation without hydrocortisone for painless stiffness at 14 months. The remaining three worsened and were subsequently treated by manipulation with hydrocortisone, two at four and one at five months. Although one failed to attend for adequate follow-up he was improving when last seen. Two had fully recovered in three months, 10 and 11 months from the onset of symptoms.

Summary

The use of hydrocortisone combined with manipulation under anesthesia together with physical methods was found to relieve symptoms more effectively than oral cortisone combined with physical methods in the early phrase of periarthritis of the shoulder.

In this trial oral cortisone did not improve upon the results obtained by physical methods alone in reducing the total disability period.◀

Brit. M.J., 1:1569-1571,1959.

Perinatal Pneumonia

In a study of pneumonia in fetuses and dying infants, the term perinatal death was used for stillbirth or death in the first week. Pneumonia signified presence of pmn. leukocytes in the air spaces or interstitial tissues of the lungs in more than minimal numbers. Observations were made on 87 cases of perinatal pneumonia and compared with a control series of 85 perinatal deaths. On the basis of maturity of infant and parity and age of mother, it was possible to distinguish between fetal pneumonia and late perinatal pneumonia. Infants dying of pneumonia on the first day of life form an intermediate group. Pneumonia occurred in fetuses near full term (commonly with anoxia) and always with inflammation of the fetal surface of the placenta. It is difficult to establish when such pneumonia is aspiration of infected liquor amnii and when it is local inflammation. It seems likely that fetal pneumonia, or the associated anoxia, is a frequent primary terminal cause of death in such fetuses. Later perinatal pneumonia occurs in premature infants and is possibly only a contributory cause of death.

Langley, F. A., & Smith, J. A. McC., *J. Obst. & Gynaec. Brit. Emp.*, 66:12-25,1959.

Delirium Tremens: Review of 45 Cases

DONALD H. DANIELS, M.D., and
ROBERT L. OHLER, M.D., *Togus, Maine*

►*This serious, disabling disorder has a mortality rate of 5 to 15 per cent. Death is usually caused by complications such as severe liver disease or infection. Treatment consists of rest, restoring fluid balance and nutrition, sedation, early diagnosis and prompt treatment of complications.*◄

There is divided opinion as to whether withdrawal of alcohol from chronically intoxicated persons will precipitate delirium tremens. The basic treatment has consisted of adequate sedation, fluid intake up to 3000 cc. daily, and general measures of support such as digitalis, vitamins, calories-rich and carbohydrate-rich diets. Alcohol is not given. Although few patients ask for alcohol at this stage, paraldehyde may be requested. Bed rest, crib sides, and restraints are used in almost every case. The latter device should be used as little as possible since patients tire themselves trying to get free from them. Paraldehyde has long been a valuable sedative and seems to be peculiarly acceptable to the alcoholic patient. Average dosage is 8 cc. every six to eight hours orally or rectally in an olive oil retention enema, intramuscularly in dosage of 4 cc. at similar intervals. If immediate stimulation is needed for shocklike states or hypotension metaramino (Aramine), 5 to 10 mg. intramuscularly, should be repeated hourly or as needed.

In the present series of 45 cases, fever of 105° or over was noted in two, this being complicated by pneumonia. Only three cases of hypotension were noted, these with the use of reserpine. In one case the blood pressure dropped from 170/130 on admission to 80/60 in 12 hours and after 7.5 mg. of reserpine had been given. Pressure then rose to 120/80 and after 18 hours again dropped to 80/60. It again improved even though reserpine was continued. Another case showed a drop from 190/140 to 70 systolic by the third day. Response to normotensive levels oc-

curred after a vasopressor drug had been given. The third case showed hypotensive drop to 84/50 with the response to levarterenol (Levophed) therapy.

Although many of the neurologic complications of alcoholism are considered to be due to related nutritional deficiency, delirium tremens and acute hallucinosis are more directly dependent upon the drug itself. These states along with tremors, delirium and often fever, sweating and tachycardia, represent various degrees of an alcohol-withdrawal syndrome.

Full-blown delirium tremens is a serious, exhausting disorder, having a mortality of 5 to 15%. The majority of the reported deaths are from complications often masked by the overactive mental state. The more common of these are severe liver disease and infections, particularly pneumonia.

Rest, restoration of nutrition and fluid balance, sedation, and early diagnosis and prompt treatment of complications are essential. Two of the newer tranquilizing drugs, reserpine in intramuscular doses of 2.5 mg., and promazine are found particularly effective and have been reported to result in a lowering of the mortality and a shortening of the duration of the delirium. Reserpine has caused abrupt drops in blood pressure in originally hypertensive persons.

In the present series of 45 cases of acute hallucinosis and delirium tremens there were eight deaths, two complicated by acute infections and four by severe liver disease. Delirium tremens is a serious and potentially fatal disease, requiring careful attention to details of treatment. A diligent search for complicating illnesses which may gravely effect the prognosis is of utmost importance.◀

J. Maine M.A., 50:255-261,1959.

Intracapsular Cataract Extraction Using Alpha-Chymotrypsin

J. E. H. COGAN, M.D., H. M. SIMMONS, M.D., and D. C. GIBBS, M.D., *Tunbridge Wells, England*

►*This enzyme has been found to cause complete lysis of the zonule in about three minutes when introduced into the anterior chamber following corneal section. Results in 122 cases indicate that removal of senile and pre-senile cataracts were greatly facilitated, and that much patient anxiety was eliminated.*◄

Alpha-chymotrypsin is an enzyme with fibrinolytic and proteolytic properties which is prepared from bovine pancreas. After it was discovered that the substance had a selective solvent action on the zonule supporting the lens in extensive animal and postmortem experiments, this discovery was applied to the living human eye with important results. When introduced into the anterior chamber after corneal section had been made, it was found that the enzyme caused a complete lysis of the zonule in about 3 minutes at body temperature.

Of 2 consecutive series totalling 122 cases in which 3 preparations of enzyme were used, one included cases in which all 3 enzymes were given clinical trial. The other series was restricted to use of one preparation. All the preparations are used at 1:5000 dilution and are prepared to give an approximately equal strength of proteolytic action.

Procedure

Local anesthesia was used for nearly all the patients. After sedative premedication, anesthesia and akinesia were obtained with lidocaine (Xylocaine) and adrenalin. A von Graefe section with a conjunctival frill was followed by a single peripheral iridectomy at 12 o'clock. After irrigation of the anterior chamber with Ringer's solution to remove blood clot, 0.25 to 0.5 ml. of one of the enzyme preparations was introduced by means of a syringe and lacrimal cannula. In

the first series the cannula was passed through the iridectomy, flooding the subiridic space in all directions, while in the second it was introduced through the pupil under the iris first on one side and then on the other. In both series great care was taken to insure the absence of posterior synechiae by moving an iris repositor or the cannula freely under the iris. While awaiting the action of the enzyme, 1, 2, or 3 edge-to-edge corneo-scleral sutures of methylene blue-stained virgin silk were inserted and hooked aside. After 3 minutes the anterior chamber was again irrigated with Ringer's solution to remove any active enzyme. While the sutures are being placed the cataract is frequently noted to come forward. Less often the pupil becomes smaller as the lens luxates and the anterior chamber becomes deeper.

In the first series the erisophake was used in every case. Controlled vacuometric suction of 250 mm. Hg moulded the capsule and cortex into the dome of the erisophake and achieved a firm grip of the lens, which could then be removed quite easily because there was no suspensory ligament holding it back. All were round-pupil extractions. Before the use of alpha-chymotrypsin, higher suction pressure up to 550 mm. Hg was often needed to overcome zonular resistance, and tension on the anterior and posterior lens capsules was correspondingly greater. After alpha-chymotrypsin has dissolved the zonular fibers, no traction on the ciliary body occurs and no tumbling or external counterpressure is necessary. Provided the section is large enough, the corneal endothelium is not damaged.

In the second series Arruga capsule forceps were used and it became necessary to resort to the erisophake only when the cataract was intumescent and the capsule too tight to grasp. The pupil was previously dilated by a mydriatic and further enlarged by an assistant who grasped the iris near the sphincter and retracted it upwards toward the wound. The capsule was then gripped above and the lens slid out without tumbling, encouraged by a little judicious counterpressure from a squint hook placed at the lower limbus.

After the lens had been removed, the iris was replaced, the stitches already in position were tied, and extra ones were inserted as desired. A bubble of air was injected and the conjunctival frill was smoothed over the suture line. Pilocarpine was instilled together with penicillin or chloramphenicol drops. In the first series one eye only was bandaged for 36 hours, while in the second both eyes

were bandaged for 36 hours after which the second eye was left uncovered.

Summary of Results

There is strong indication that the removal of senile and presenile cataracts is made much easier by this enzyme, and that no damage results to any of the ocular structures from its use. In this new way a great deal of tension and anxiety are eliminated. The battle between the zonule and the capsule is already won by the time the lens is removed, and the vast majority can be virtually lifted out. Employment of alpha-chymotrypsin in this surgical procedure is becoming routine.◀

Brit. J. Ophth., 43:193-199,1959.

Cataract Surgery: Optimum Wound Closure

Postoperative actions such as squeezing, coughing, vomiting, sneezing and straining are normal and often unavoidable. A study was made of 100 cases to test the possibility that a multiple suture closure might provide greater protection against such stress. Cataract extraction was performed in 50 cases with a technique identical with that used in the preceding 50 except that 3 postextraction radical oppositional corneal-scleral sutures (black silk or gut) were used in addition to the 2 preplaced black silk McLean sutures used in the first 50.

Visual results were about equal, but in the 5-suture series there was a dramatic reduction in the incidence of early postoperative complications and in the final degree of astigmatism. The incidence of shallow or flat anterior chamber was reduced from 20% in the 2-suture series to 0% in the 5-suture, of iris incarceration from 14% to 2%, and of hyphema from 8% to 2%. Average final degree of astigmatism was reduced from —1.78D cyl. in the 2-suture series to —0.745D cyl. in the 5-suture, there being 11 eyes in this series with no astigmatism and 38 with —1.0D cyl. or less, the highest error being —1.75D cyl. (in 2 cases only).

The 5-suture series now stands at 98 consecutive extractions without a flat chamber, leading to the conclusion that 5 radial oppositional corneal-scleral sutures will eventually be accepted as the minimum for adequate wound closure in cataract surgery.

Taylor, D. M., *Am. J. Ophth.*, 48:660-666,1959.

Tranquilizers in Office Practice

HELEN SINGER KAPLAN, M.D., *New York, New York*

►*Although they are no substitute for the sympathetic understanding of the physician, tranquilizers are a useful adjunct in treating emotional disorders. Selection of the proper rauwolfia derivative or phenothiazine compound is not easy; moreover, correct dosage must be adjusted to the needs of each patient.*◄

Since the advent of antibiotics no advance in medicine has had such wide application as that of the tranquilizer drugs.

Pharmacologic Classification

Phenothiazidine derivatives are chlorpromazine, promazine, mepazine, prochlorperazine, perphenazine, trifluopromazine, thiopropazate, trifluoperazine, and others.

Substituted alkanediols are meprobamate and phenaglycodol. Rauwolfia derivatives are rescinnamine and deserpidine. Diphenylmethane derivatives are hydroxyzine HCl and benactyzine HCl. Miscellaneous are oxanamide and ethylcrotonylurea, also used for this effect.

Medical Application of Tranquilizers

Tranquilizers have found a wide variety of uses in medicine and surgery. Reserpine has been employed as an antihypertensive and bradycardic agent, meprobamate as a muscle relaxant and an anticonvulsant, phenaglycodol as an anticonvulsant, and the phenothiazines as antiemetics and potentiators of narcotics, anesthetics and hypnotics.

Tranquilizers ideally leave the patient calm, alert, and cooperative, whether he be psychoneurotic or psychotic. Tranquilizers are remarkable as adjuvants, but are no substitute for the compassion and understanding of the physician, be he psychiatrist or generalist.

Tranquilizers give best results in emotional illnesses characterized by excitement, especially in those which are episodic and self-limiting. The anxiety of psychoneuroses at times appears to be eased by these agents, but obsessive and phobic reactions

and depressions are little affected.

Most Efficacy in Anxiety States

The largest neurotic diagnostic group for which ataractics are indicated is that of acute and chronic anxiety states. Symptoms of this condition are palpitations, sweating, feelings of tension, and apprehension. In an acute anxiety attack only a single dose of tranquilizer may be necessary, inducing sleep from which the patient may awake free from the anxiety.

Tranquilizers have been classified as minor and major. Generally, the minor (the alkanediols, the diphenylmethane derivatives, and certain of the miscellaneous ones) are indicated primarily in mild and transient tensional and neurotic states. They produce less tranquility than the majors and have fewer side effects, but they may be habit forming.

In the Psychoses

Major drugs include the phenothiazine and reserpates, and are specifically indicated in the psychoses. They give a great degree of calmness, and can produce rigidity, tremors and dangerous side-reactions such as jaundice and agranulocytosis. They do not produce habituation. In their utilization two trends are noticeable:

1. The rauwolfia alkaloids, in addition to being especially useful in certain medical conditions, e.g., hypertension, are less effective than phenothiazines in psychologic conditions, and aggravate some.

2. The three most widely used phenothiazines seem to be chlorpromazine, prochlorperazine, and perphenazine. The latter two, which are piperazine phenothiazines, cause few side reactions. The toxicity of all phenothiazines is such that they should be used with care and, preferably, not employed in the management of neuroses.

Choice Difficult in Many Cases

Choosing the proper tranquilizer in each case can often be a difficult task. Various combinations of tranquilizers are offered as better than the individual drugs. There is no conclusive evidence that any of these combinations is an improvement over the single drug. Initial doses should usually be small, increased over several days until the desired clinical effects are achieved. There is wide variation in the effective dose required by different patients. The optimal dose must be determined for each patient by careful observation.

Much remains to be learned about tranquilizers, and care and judgment must be exercised in

their use. Two major side-effects of phenothiazines are jaundice and agranulocytosis. The jaundice seems to be benign and controlable by cessation of the drug. It is wise to have the urine examined every two weeks for urobilinogen and bile increase, and to warn the patient to watch for yellow skin, pruritus, yellow stool or dark urine.

Recognition of Effects on White Blood Cells

Agranulocytosis is a serious complication and may be fatal. The patient must be warned to report mouth ulcers and sudden rise in body temperature. Frequent blood counts should be made. Agranulocytosis requires active therapy (antibiotics, ACTH, blood transfusions, etc.) and immediate cessation of the phenothiazine.

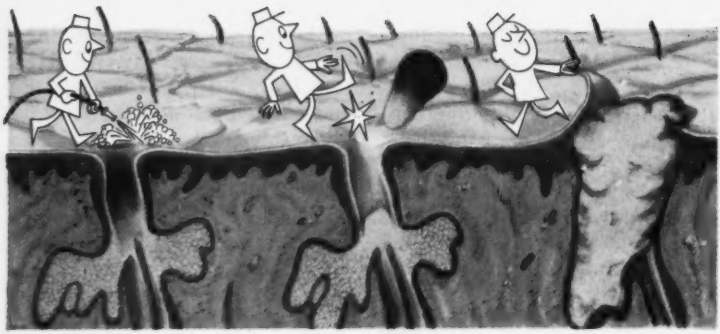
The extrapyramidal syndrome caused by certain tranquilizers is treated with antispasmodics, convulsions with anticonvulsants, and skin reaction with topical or systemic cortisone. Patients must be cautioned about exposure to sunlight when taking phenothiazines, also against driving a car, and drinking alcohol. Meprobamate dependency may develop, with the appearance of convulsions on withdrawal.◀

New York J. Med., 59:2871-2887,1959.

Restriction of Physical Activity in Rheumatic Children

For a child with rheumatic heart disease, or one who has recently recovered from acute rheumatic fever, a physician's recommendations for physical activities or school placement influence the entire future. Irreparable damage can be done through over-restriction and over-protection. It has never been proved that exercise influences the development of heart disease during convalescence, or the progression of heart disease when the rheumatic infection is quiescent. The physician's objective should be the promotion of the most active and normal school life possible. Restrictions when necessary should be minimal and carefully determined for each individual child. Both parents and teachers must understand and conform to the recommendations. Success requires long term interest and followup on the part of the physician.

Brownell, K. D., *Heart Bull.*, 9:71-74,1960.



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Functional Spasm of Accommodation

L. H. SAVIN, M.D., *London, England*

►*This infrequent condition was studied in 12 patients, one of whom was observed for 29 years. Esophoria was the most prominent symptom. Headaches were mild, if present. Emotional disturbance was a factor, most patients depressed and manifesting hysteria. Atropinization, orthoptics, and sympathy are helpful.*◄

Functional spasm of accommodation was described by von Graefe in 1856 and is infrequently encountered. Cases which occur sporadically in the out-patient departments of hospitals tend to be dismissed as unimportant and one is rarely able to obtain an effective follow-up in hospital work.

Present Study

Of a series of 12 private patients—one followed for 29 years, one for 14, one for 10, two for five, one for four, two for three, two for two, and two for one year or less—three were under 10 years of age, four between 10 and 20, two between 20 and 30, and the others 30, 32, and 33 years respectively, at the time of their attacks. In one patient who has been followed from age 30 to 60, symptoms strongly suggesting spasm of the ciliary muscles still recur although the pseudomyopia has disappeared with advancing age. It has been possible to make a careful study of 21 attacks of accommodative spasm, as recurrences of the trouble have been frequent. Six patients have had one attack, three have had two attacks, and three have had three or more attacks. Although eight of these patients were females and four males, the more serious symptoms all occurred in males.

Preliminary refractive tests were made without cycloplegics. Where spasm was suspected from the symptoms or from the variability of response, cycloplegics were employed before the diagnosis was definitely made. The children were tested under atropine cycloplegia, and most of the adolescents and adults, for reasons of convenience, under

homatropine and cocaine. The tests showed that spasm was not confined to any one type of refraction. Five patients were hypermetropic, three emmetropic, and four myopic. Only two showed astigmatism of more than one diopter, one patient being myopic, the other hypermetropic. Two achieved 8 diopters of spasm, one 5, three 4, one 3, two 2, and three 1 diopter. The myopes seemed to suffer spasms of higher degree on the average than the hypermetropes and emmetropes in the series.

Headaches were not a prominent feature. Seven out of the 12 complained of frontal headache but no stress was laid on the severity of the symptom. Eye-ache was mentioned in a few cases. Nausea was inquired for in those complaining of headache but was admitted in only two cases. The majority of patients showed esophoria, but exophoria for distance was noted in a few cases. The distance readings in seven cases of esophoria were 2, 7, 10, 12, 26 and 27 prism diopters. The exophoria readings were 3, 4, and "gross." Two patients did not possess simultaneous macular perception, and Maddox rod readings were impossible. Significant hyperphoria was not noted.

Diplopia was complained of in only four cases. The symptom was mentioned incidentally, and seemed to the patient to be of little importance compared with the diminution of distant vision, which in nearly every case was the initial severe symptom. Mental stress was noted in 10 of the 12 patients, so pronounced in most cases as to be an inescapable feature.

Incidence of Emotional Distress

The most constant precipitating factor in the series seemed to be emotional distress. The typical emotional situation was seemingly either sheer fright or one in which an ambitious but rather inadequate personality was attempting a task a little too hard. If his eyes "give out," his failure is justifiable even to himself. It is hard enough to assess one's own motives, much less penetrate the mind of another. But from the practical viewpoint, spasm of accommodation readily responds to treatment planned on the hypothesis that the symptom is hysterical in a patient of depressed mood.

Treatment

Almost any treatment is successful which will tide over the precipitating crisis without puncturing the balloon of self-esteem. Atropinization works if it is carried past the date of the examination. Very often the patient's fears are not solidly based, and his chances of success are objec-

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Dosage: 2 to 4 tablets t.i.d., with or after meals. Each tablet contains aluminum nicotinate Walker equivalent in activity to 500 mg. of nicotinic acid.

Supplied: Bottles of 100 and 1000.

References: 1. Tandowsky, R. M.: Personal communication. 2. Parsons, W. B.: *Curr. Therapeut. Res.* 2:137 (May) 1960. 3. Thompson, C. E.: Personal communication. 4. Biben, I. H.: Kurstin, W., and Protas, M.: Personal communication. 5. Hobbs, T. G.: Personal communication.

*PAT. PENDING

Walker LABORATORIES, INC., MOUNT VERNON, N. Y.

ing averaging 5 ml. a day and that 10% bled excessively. More than 10 ml. a day was lost by 13, and some of these averaged as much as 15 ml. a day over prolonged periods. A patient with rheumatoid arthritis and a hiatus hernia had 3 emergency admissions to hospital for severe hematemesis and anemia. Although this was attributed at first to hiatal ulceration, study showed that she bled from the stomach, not the hiatus hernia, and only when taking aspirin. In contrast, a patient with an enlarging gastric ulcer did not bleed even when taking aspirin. No relationship between blood loss and dose has been found. Some patients bleed severely after a few tablets while others tolerate 16 or more daily for years without anemia or blood loss.

Dixon, A. St. J., et al., *Brit. M.J.*, 1:1425-1426,1960.

Beer and Blood Clotting

Beer may cause a profound reduction of coagulation in the blood of healthy persons. In 12 of 16 persons the drinking of 1 pint of bottled beer was followed in 2 hours by pronounced lowering of blood clotting time. In 3 of the other 4 persons there was a small but significant prolongation, while the remaining subject was not affected. Whiskey in a dose of 2 ounces had no significant effect on blood coagulation time in 6 of the subjects showing a pronounced response to beer.

This study was undertaken following observation of prolonged blood clotting time in a few patients later found to have had a glass of beer 3 hours before clotting time tests. Initial studies of a man and woman showed that clotting time of both were greatly prolonged on the days on which beer (1 pint and 2 pints), cider or white wine were taken, but that these times were not altered significantly after gin or whiskey was ingested. To determine the time and duration of the effect of 1 pint of beer, blood specimens were obtained 2, 4 and 6 hours after ingestion of this amount. The reduction of coagulation activity was greatest at 2 hours. In the man, clotting time returned to a near-resting level at 4 hours, when in the woman it was still elevated (not falling to near the resting level until 6 hours). Further studies in 10 men and 4 women also showed a distinct prolongation of clotting time and a reduction of blood coagulation activity after drinking a pint of beer. Whiskey in a dosage of the same alcoholic content as the beer apparently had no effect. White wine and cider in both studies appeared to have an effect comparable to that of beer.

Fearnley, G. R., et al., *Lancet*, 1:184,1960.

Essentials of Mononucleosis

One odd aspect of mononucleosis is that a person ill with pharyngitis and fever apparently cannot transmit the disease even by kissing. Transmission appears to be via a carrier, with no clinical or laboratory evidence of the disease. The incidence among married persons is so low as to lend strong support to the view that transmission is usually the result of intimate kissing.

Patients with this disease commonly complain of sore throat, malaise and fatigue. Cases without pharyngitis are classified as atypical. Few cases will be overlooked when honest attention is focused on the following signs:

1. Fever is present in all, with a usual duration of about nine days.

2. Adenopathy, found by standing on the right of the seated patient and carefully palpating with the tips of the fingers of the left hand from the back of the neck, will demonstrate enlarged left posterior cervical nodes in 99% of cases by the end of the first week of illness. Right posterior cervical adenopathy is second in importance, while axillary epitrochlear and inguinal adenopathy is seldom elicited. Significant anterior cervical adenopathy suggests concurrent Vincent's infection or streptococcic pharyngitis.

3. Pharyngitis, although present in 90%, may develop late. Palatine petechiae or a white tonsillar exudate appear in one-fourth of all cases.

4. Splenomegaly is present in 70% of male and 30% of female patients.

5. Hepatomegaly is present in 30% (jaundice in 5%).

6. Rash is so rare in patients untreated with antibacterial agents as to suggest other diagnosis.

Most patients have a leukocytosis. Blood smears as prepared for routine differential counts are too heavy, so that smears should be one-half the usual thickness. Atypical lymphocytes (20 to 67%) are present during the midfebrile period and for a week or two. Neutrophil counts, usually lowest a few days after normal temperatures appear, range from 6 to 49%. Heterophil titer is at least 1:56 if tested through the seventeenth day. Because diseases with gross hematologic or serologic deficiencies misdiagnosed as mononucleosis are responsible for most of the confusion about this disease, it would seem appropriate to reserve the term mononucleosis for cases having both hematologic and serologic findings supporting this diagnosis.

Bender, C. E., *Minnesota Med.*, 42:751-752, 1959.

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Prevention of Emotional Disorder by the Family Physician

It is neither necessary nor desirable for the family physician to employ the same technique as the psychiatrist. The practices of the psychiatrist in relation to time are based on the fact that his patients are strangers to him. He must penetrate below their surface defenses and deal with unrecognized and unacceptable material so that his relationship with his patient (however intimate the content of their discussions) remains a stranger relationship, in which each takes care to keep outside the boundaries of each other's customary social life. The regular appointment and the "50-minute hour" are derivatives of this situation, the interview being separated from the rest of the patient's life so as to give him the security to lay down some of his defenses temporarily. The length of the usual psychotherapeutic treatment is also dictated by the fact that the psychiatrist has to deal systematically with much complicated material in working down to the unconscious sources of the illness.

The family physician knows many of his patients as friends, has known them and their relatives for years, and even in the case of a new patient can assume that this will be a prolonged contact. He does not need to collect important information about the personality of his patients in a few long interviews, since it accumulates gradually either directly or indirectly from many and various sources. He penetrates the patient's social life and home as a friend. Although he learns much about his patients, the level of such knowledge and the confidence in professional ethics are such that the patient rarely feels the need to hide from the physician in any social situation.

In helping his patient handle emotional problems the family physician does not need to make long speeches. At the height of the crisis, the right word in the right place gives better results than a lecture. Very often the most powerful messages are conveyed without words, e.g., by one's understanding manner, patience, warmth of greeting, or by a sympathetic nod or gesture. The results will be determined by their appropriateness to the specific condition of the patient in his current predicament. If success is only partial the family physician can always rely on being able to wait for additional opportunities in the future since his relation with his patient will probably be continuing for many years to come.

Caplan, G., *J.A.M.A.*, 170:1497-1506,1959.

Treatment of Pathologic Affections of the Thyroid

Indications for surgical removal of 90 per cent of the thyroid gland in thyrotoxicosis include:

1. Patients with diffuse goiter who do not respond favorably to antithyroid drugs or in whom a permanent remission cannot be maintained.

2. Hyperfunctioning adenomatous goiter, whether single or multiple nodules are present.

3. Patients whose thyroid glands continue to enlarge during the prolonged use of antithyroid drugs. Such enlargements continue to grow so much that they cause dyspnea and dysphagia even when the patient is in a sitting position.

4. Severe thyrotoxicosis associated with pregnancy. Radioactive iodine will be retained in the fetal thyroid with possible latent genetic effects.

5. Patients with moderate or low grade hyperthyroidism who can be properly prepared with Lugol's solution.

Administration of I^{131} is probably advisable in cases of recurrent or persistent hyperthyroidism after thyroidectomy, hyperthyroidism with severe cardiovascular disease or some other concurrent disease, and in the event a patient refuses to accept surgical or other therapy.

Cancer of the thyroid should be treated surgically. Irradiation is of secondary importance, being used in cases in which not all malignant tissue can be resected. Extent of the operative procedure is governed by the type and extent of the local spread of the carcinoma.

Rienhoff, W. F., Jr., *Am. Surgeon*, 26:288-308, 1960.

Late Edema in a Burned Patient

Massive edema appeared late in the case of a man of 26 having severe burns on both lower limbs. The burns were limited to no more than 12% of the surface, but were so deep as to involve muscles, bones and tendons. The patient's nutritional state was good and he had no evident renal, cardiac, or hepatic disease. Early therapy was easily managed and it was expected that a series of excisions and grafts would bring about a good cure, but one month later polyuria developed suggesting atypical diabetes. After this diag-

nosis was rejected a somatotropic hormone was administered. Edema of the lower limbs persisted and increased despite a salt-poor diet. It involved the raw areas (extending beyond them) and had ill effect on the survival of grafts. Secondary infection developed, at one time becoming so severe that double amputation was considered. Various factors explaining this edema were reinvestigated and excluded. Positive findings possibly causing the edema were:

1. The edema appeared after sudden, massive sodium depletion.
2. It persisted in spite of a salt-poor diet.
3. Its development was regular and cyclic.

All of these findings suggested hyperaldosteronism. It is also possible that general factors of water-sodium retention were somehow brought into play. Only when these factors ceased to operate was the situation controlled and healing obtained.

Monsaingeon, A., et al., *Presse med.*, 67:1505-1507,1959.

Bacterial Invasion of Blood Following Oral Surgical Procedures

Samples of blood for cultures were obtained from 127 patients immediately following oral surgical procedures, another sample 18 hours later. None of the patients had cardiovascular defects which would make them vulnerable to endocarditis. The 50 patients in group A received no antibiotic before operation, the remaining 77, 1 or 2 tablets of phenoxymethyl penicillin (each tablet containing 500,000 units) at intervals of 6 hours for a total of four doses preceding the operation, which was undertaken 4 hours after the last dose. Fifty of the 77 patients who received 4,000,000 units of penicillin preoperatively constituted group B. The remaining 27 of the 77 patients (group C) received 1 tablet of phenoxymethyl penicillin every 6 hours for four doses, for a total preoperative dose of 2,000,000 units of the antibiotic.

The 50 patients (group B) receiving phenoxymethyl penicillin, 4,000,000 units, showed no group of bacteria pathogenic for endocarditis in blood cultures obtained at the time of, and 18 hours after, oral operation. Observations in group B suggest that, when 4,000,000 units of phenoxymethyl penicillin is to be given by mouth, this treatment need not begin until 24 hours rather than 48 hours beforehand. For prophylaxis, penicillin may be given in the phenoxymethyl form by the oral route.

Schirger, A., et al., *Proc. Staff Meet. Mayo Clin.*, 35:618-622,1960.

Changing Concepts in Preoperative Medication

Greater facility in the induction and maintenance of anesthesia has reduced the necessity for the patient to be drugged preoperatively to a state of marked cerebral depression, with its threat of respiratory and cardiovascular depression. The patient deserves at the initiation a calm, serene attitude free from anxiety and apprehension, while the anesthetist would welcome a degree of somnolence light enough for the patient to be aroused and engaged in conversation. In the interest of both, the premedicant drugs should not depress the responses of the vital functions of respiration and circulation.

Conventional preoperative medication consists of an injection of morphine or meperidine, and atropine or scopolamine. Short-acting barbiturates such as secobarbital and pentobarbital have stood the test of time, and, in dosages of 100 to 180 mg., induce somnolence and relieve fear with minimal deleterious effects. Phenothiazine compounds enhance sedation produced by other drugs and are antiemetics. Promethazine potentiates the action of hypnotic and narcotic drugs, so that smaller doses suffice; in dosage up to 50 mg. it has little deleterious effect. One other sedative of interest for preoperative use is glutethimide (Doriden), a non-barbiturate; however, it was not judged to be an effective sedative for preoperative use. Of synthetic anticholinergic drugs used as substitutes for atropine or scopolamine, none has proved superior to atropine or scopolamine in adequate dosage, except that oxyphenonium has longer action.

Stephen, C. R., *North Carolina M.J.*, 21:8-11, 1960.

Massive Rectal Hemorrhage: Case Report

Increasingly severe rectal bleeding in a woman of 66 with a history of hypertensive cardiovascular disease and diverticular disease of the colon necessitated replacement of 12,000 ml. blood during the first 24 hours after hospitalization. Exploratory laparotomy revealing no abnormality except multiple diverticula in the left side of the colon, the involved segments were resected. The patient began to improve immediately after ligation of the blood supply to the resected colon, was ambulatory by the seventh day, and when seen a year later had had no recurrence.

Surgical treatment should be considered when hemorrhage resulting from diverticular disease of the colon is persistent and profuse or recurrent.

Covey, M. C., & Moeller, H. C., *Am. J. Gastroenterol.*, 35:42-45,1961.

Photos used with patient's permission.

How new **Dianabol** rebuilt muscle tissue in this underweight, convalescent patient

Patient was weak and emaciated before Dianabol. R. C., age 51, weighed 160 pounds following surgery to close a perforated duodenal ulcer. His convalescence was slow and stormy, complicated by pneumonia of both lower lobes. Weak and washed out, he was considered a poor risk for further necessary surgery (cholecystectomy). Because a conventional low-fat diet and multiple-vitamin therapy failed to build up R. C. sufficiently, his physician prescribed Dianabol.

Patient regains strength on Dianabol. In just two weeks R. C.'s appetite increased substantially; he had gained 9½ pounds of lean weight. His muscle tone was improved, he felt much stronger. After 4 weeks, he weighed 176 pounds. Biceps measurement increased from 10" to 11½". For the first time since onset of postoperative pneumonia, his chest was clear. Mr. C.'s physician reports: "He tolerated cholecystectomy very well and one week postop felt better than he has in the past 2 years."

Primary Adenocarcinoma of Small Intestines

Symptoms vary with the size, duration, and location of the lesion. The clinical picture falls into 3 syndromes — the anemic syndrome with pallor, weakness, loss of weight, fatigue, and dyspnea; the obstructive (seen in 75% of cases), with nausea, vomiting, sudden severe cramps in the central and lower abdomen, distention, and borborygmi; and the perforative, with pain localized and referred becoming steady when invasion of adjacent structures has occurred—a very late symptom.

Its early diagnosis is extremely difficult and infrequently made preoperatively. Serial x-ray study of the gastrointestinal tract should lead to suspicion of this disease in at least 90% of patients. The probable diagnosis indicates exploratory laparotomy. The diagnosis is invariably late and so delayed that the possibilities of long survival are few. The ideal treatment is a wide resection of the lesion, removal of the adjacent mesentery with the regional lymph nodes, and re-establishment of the bowel continuity by end-to-end anastomosis. A side-tracking procedure is for poor-risk patients or for those with extensive and non-resectable lesions.

Michienzi, F., et al., *Connecticut Med.*, 24: 618-623,1960.


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Rheumatoid Arthritis: Application of Bentonite Flocculation Test

Using this test, positive reactions were found in approximately 79% of 98 patients with definite rheumatoid arthritis, 36% of 42 patients with probable rheumatoid arthritis, and 18% of 114 patients with a possible rheumatoid arthritis diagnosis. Only 1% false positive determinations were found in 192 normal control individuals. A significant number (35% of 14 patients) of positive BFT reactions were encountered in those with connective tissue disease (disseminated lupus erythematosus, scleroderma, and dermatomyositis), making this test of value if positive when such a disease is suspected. In 34 patients with definite rheumatoid spondylitis, of which several had peripheral joint manifestations, no instance of positive rheumatoid serology was encountered with this test.

The BFT, which is simple and can be done by the average laboratory technician with little difficulty, involves the use of Bentonite particles of known size sensitized with gamma globulin colored with methylene blue. These coated particles are allowed to react with the patient's serum, which is kept frozen prior to use. Agglutination occurs when rheumatoid factor is present and may be graded 1 plus to 4 plus in intensity.

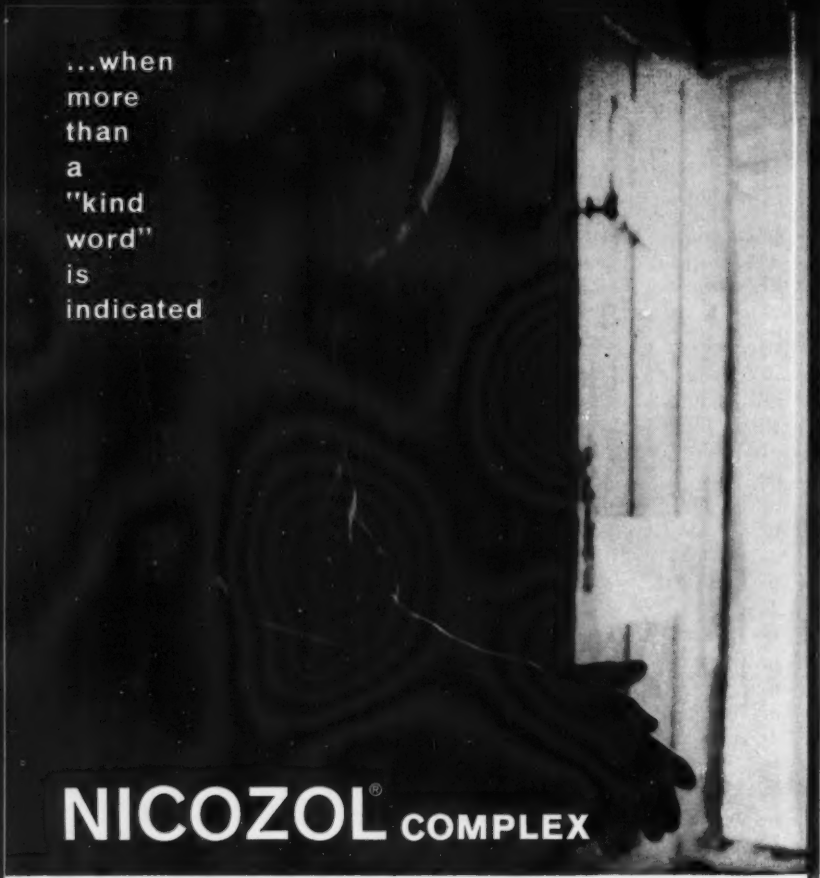
Pearsall, H. R., et al., *Bull. Mason Clin.*, 14: 16-19,1960.

Burns: Need for Better Diagnosis Earlier

Although morbidity and ultimate disability can be greatly reduced by techniques now available, too many patients are being referred to the larger medical centers much later than is desirable because of errors in original diagnosis of the depth of their burns. A patient needing surgical treatment should be transferred between the fourth and tenth day, need for this transfer being dictated by diagnosis of the depth of the burn at the time of initial treatment. If the depth of a burn cannot be diagnosed in early stages, it should be considered deep and the patient treated accordingly. To fail in this is to deny the patient the benefits of these recent advances.

Editorials and Comments, *Canad. M.A.J.*, 82: 156,1960.

...when more than a "kind word" is indicated



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Pyridoxine Hydrochloride	6 mg.
Vitamin B_{12}	2 mcg.
Folic Acid	0.33 mg.
Panthenol	5 mg.
Choline Bitartrate	20 mg.
Inositol	15 mg.
l-Lysine Monohydrochloride	100 mg.
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Bronchial Asthma with Cor Pulmonale and Congestive Heart Failure

A Negro woman of 33 had been well until 30 months prior to admission, when she had respiratory distress with bronchospasm. Past history was negative except for hay fever during spring and summer, and a strong allergy to tobacco. During the time prior to admission, she had many episodes of severe bronchospasm and her weight fell from 265 to 150 pounds. Six weeks prior to admission she had great difficulty in breathing and was seen in a number of hospital emergency rooms, but she rapidly lost ground. Ankle and leg edema were noted, and menometrorrhagia developed for the first time. She was in critical condition when admitted.

Blood pressure was normal, pulse was 144, and she was afebrile during the next 6 days in spite of broad-spectrum antibiotic (Achromycin) therapy. The patient was in heart failure, with x-rays revealing an enlarged heart and accumulation of fluid in the pericardial sac. There was persistent leukocytosis of over 20,000 without eosinophilia, mild anemia, moderately elevated ESR, negative serologic findings, negative L.E. cell preparation, low serum albumin, depression of serum Na, chlorides, and CO_2 with some elevation of serum potassium.

The patient remained in marked respiratory distress, with evidence of heart failure, fever, and persistent tachycardia. On the fifth day, shock developed with a striking electrolyte imbalance and moderately severe upper gastrointestinal hemorrhage. Gas-filled loops of the large intestine were prominent. Death occurred on the sixth day.

Findings were that she had bronchial asthma, cor pulmonale, and congestive heart failure. Disseminated disease of the connective tissue with polyarteritis associated with or related to anaphylactic hypersensitivity was present.

Bruno, M. S., & Ober, W. B. (moderators), *New York J. Med.*, 60:83-96,1960.

Fullness in the Ear: Diagnostic Value in Early Ménière's Disease

Recognition of mild cases of Ménière's disease of the cochlear type (hydrops) is missed in many cases because the physician is misled by the patient's complaint of fullness — and the absence of dizziness — to assume that the Eustachian tube or the middle ear is implicated. The two most important criteria of differential diagnosis are tests of tubotympanic function and of the character of the deafness. Tubotympanic function is tested by

catheter inflation of the Eustachian tube and auscultation. If the tube is obstructed or there is fluid in the middle ear, fullness and deafness will be completely or partially relieved by inflation. In hydrops the tube is patent, there is no sound of fluid, and inflation gives no subjective relief. In deafness associated with obstruction of the Eustachian tube or fluid in the middle ear, a conductive hearing loss with an air-bone gap is characteristic. Speech reception thresholds and pure tone loss are in proper balance, and discrimination scores are good. In hydrops, there is end-organ deafness characterized by equal impairment of air and bone conduction (usually more pronounced in the low tones) with a proportionately greater loss for speech, and discrimination scores are poor.

The diagnosis of hydrops should be made if fullness or pressure of the ear is associated with a low pitch tinnitus and a slight perceptive hearing loss with or without fluctuation. Dizziness, diplacusis, recruitment, and impaired discrimination for speech indicate a more advanced involvement of the labyrinth, classified in this series as Ménière's disease. Although blockage, fullness, or pressure in the ear is found in so many diseases of the external ear, middle ear, and Eustachian tube that it is usually regarded as evidence of involvement of one of these structures, it is also an early and consistent complaint in labyrinthine hydrops. Among 51 patients having this or the more advanced form of Ménière's disease, 48 complained of fulness.

Alfaro, V. R., *J.A.M.A.*, 166:239-245,1958.

Relationship Between Hypertension and Atherosclerosis

Severity of atherosclerosis, as measured by the amount of lipid extracted from the coronary, cerebral and femoral arteries and abdominal aorta, was determined in each of 184 fatalities in a series of 800 male patients permanently confined to a hospital. This was compared with the presence or absence of hypertension during each patient's hospital stay which averaged several years. Significant relationships between hypertension and the severity of disease were found in 7 of 12 statistical analyses, and were consistently demonstrated in the two vessels of greatest clinical importance, the coronary and cerebral arteries. Hypertension may accelerate the atherosclerotic process by increasing the tendency of hypertensives to rupture intimal capillaries and produce intimal hemorrhages.

Paterson, J. C., et al., *Canad. M.A.J.*, 82:65-70,1960.

Atrial Fibrillation: Management with Long Acting Quinidine Gluconate

Five normals were given 1 Gm. of quinidine base as quinidine sulfate and their serum levels after 1, 3, 5½, 8, 12, and 24 hours were compared to the levels after the same dose administered as long acting quinidine gluconate (Quinaglute Dura-Tabs). The peak serum quinidine level after long acting quinidine gluconate was lower than after quinidine sulfate, but the levels descended more slowly and 8 to 12 hours after administration, higher serum levels were maintained by long acting quinidine gluconate.

The long acting drug was given to 8 patients with previously established atrial fibrillation after conversion to sinus rhythm. This was successful in maintaining sinus rhythm in all cases, usually with a dose of 0.6 Gm. twice daily. The serum quinidine level 12 hours after the evening dose ranged between 1.75 and 5 mg. per liter.

Of 4 patients with paroxysmal atrial fibrillation, therapy prevented further attacks in 2 and failed in 2 others in whom quinidine sulfate had also failed.

No side effects were seen in patients with previously established atrial fibrillation on a maintenance dosage. In 2 patients with paroxysmal atrial fibrillation where treatment had to be discontinued, the cause was gastrointestinal discomfort and weakness.

Greif, E., & Scheuer, J., *J. Mt. Sinai Hosp.*, 27:612-617,1960.

Irritable Colon: Control of Diarrhea with Diphenoxylate HCl

This antidiarrheal drug (Lomotil), structurally related to meperidine and supplied in tablets containing subtherapeutic amounts of atropine as protection against possible addiction, was given for periods of 3 to 17 weeks to 35 patients requiring medical relief of diarrhea due to the irritable colon syndrome. Dosage was started at 15 mg. daily and then decreased as indicated by response. Relief in 26 was complete or better than with other drugs and in the other 9 was moderate or as good as with other drugs. No side effects were noted, nor any evidence of withdrawal symptoms.

Kasich, A. M., *Am. J. Gastroenterol.*, 35:46-49, 1961.

Systemic and Local Corticosteroid Therapy in Ulcerative Colitis

The 105 patients selected for study were all suffering from ulcerative colitis with sigmoidoscopic evidence of active disease. In the case of first attacks a barium enema also showed such evidence. In the case of relapse of established disease a barium enema was not always used, but previous examinations had proved ulcerative colitis.

Patients whose disease was confined to the rectum and rectosigmoid junction were excluded, also those having had very severe attacks of ulcerative colitis. Patients with a profuse bloody diarrhea and serious constitutional symptoms or major complications were hospitalized and treated more vigorously.

The following three treatment regimens were employed:

1. Oral prednisolone 5 mg. four times daily was given to ⅓ of the patients. This dose was chosen because from the outset the intention was to treat as many as possible as outpatients.

2. Local treatment, i.e., a nightly rectal drip, was given to another ⅓. Half of these patients were given hydrocortisone hemisuccinate sodium, the other half prednisolone 21-phosphate. Hydrocortisone hemisuccinate sodium was given in a daily dose equivalent to 100 mg. of hydrocortisone. The prednisolone 21-phosphate drip was made by dissolving special tablets of this agent in tap-water, the daily dose being equivalent to 40 mg. of prednisolone.

3. Combined treatment was given to the remaining ⅓ of the patients. All these were given prednisolone by mouth in a dose of 5 mg. q.d.s., together with local treatment in the form of a nightly rectal drip. Locally, half of these patients received hydrocortisone hemisuccinate sodium, the other half prednisolone 21-phosphate.

A total of 120 courses of treatment was given, 40 for each of the 3 treatment regimens. The trial took nearly two years, so that some patients treated successfully in the early stages were later seen with a recurrent attack and were readmitted to the trial and assigned at random to a treatment group.

Rapid clinical remission was defined as complete loss of symptoms and with decisive improvement in the sigmoidoscopic appearances within two weeks of starting treatment. According to this criterion, about ⅓ of the patients treated wih oral prednisolone had rapid clinical remission. With local corticosteroid treatment, nearly ¾ of the patients had a rapid clinical remission. There is little to choose be-

tween the two corticosteroids used for local treatment, each of them being more effective than orally administered prednisolone in the dosage used. With combined systemic and local treatment the results depended upon the particular combination used. When orally administered prednisolone was combined with locally administered prednisolone 21-phosphate the results were similar to those of local treatment alone, whereas rapid remission was experienced in all patients receiving orally administered prednisolone with locally administered hydrocortisone hemisuccinate sodium. This second combination proved the most effective of the treatments studied.

Truelove, S. C., *Brit. M.J.*, 1:464-467,1960.

Dermatomycosis: Treatment with Griseofulvin

This drug was effective against the Microsporum, Trichophyton, and Spidermophyton species of fungi in 327 patients treated. Sites of involvement included tinea capitis, barbae, corporis, cruris, pedis, and unguium. The drug was administered orally in the form of 250 mg. tablets. Most adults were given 4 tablets daily and children 2 or 3 tablets daily. Those under age 3 usually received 1 tablet daily.

Of 60 children with tinea capitis, all but 2 (who were improving) had their infection cleared in an average of 6 to 7 weeks. Three men with tinea barbae were all cured in a period of 3 weeks. Of 50 patients with tinea corporis, most of them due to T. rubrum, all were cured, usually within 4 to 6 weeks. Itching in these patients was relieved within 2 to 5 days. Tinea cruris was cured in 32 patients within 2 to 6 weeks, with no recurrences to date. Results were not as good in tinea pedis, since almost a third of 96 patients treated failed to clear entirely. The worst results were in T. mentagrophytes infection in which only 8 of 24 patients cleared entirely. Of 86 patients with tinea unguium (onychomycosis), 27 were cured when results were compiled. Griseofulvin is the only agent that has succeeded in growing out fungus-infected nails. Toenail growth has been disappointing, but this drug is the only medication which has given any promising results.

Transient side effects such as headache, nausea and gastrointestinal distress occurred in 10 patients early in the period of therapy, but disappeared despite continued administration of the drug. Side effects in an additional 6 required discontinuance of the medication.

Weiner, M. A., et al., *M. Ann. District of Columbia*, 30:1-6,1961.

Cerebral Infarction and Usefulness of Fibrinolytic Agents

Strokes due to occlusive cerebrovascular disease may be classified as follows:

1. Incipient or Impending Stroke. This is characterized by episodes of intermittent insufficiency or intermittent focal cerebral ischemia, which may last a few minutes or an hour.

2. Advancing Stroke. During this period the physician is able to determine that the patient's neurologic deficit is increasing during his observation.

3. Completed Stroke. This may occur in either the carotid or vertebral-basilar arterial system, and may improve spontaneously. The neurologic deficit is no longer progressing, but is stable.

When treatment with fibrinolytic agents is considered, the limitations of ischemia in the end-organ (brain) must be kept in mind. More thorough study of use of fibrinolytic agents in the following areas is desirable:

1. Advancing or progressing infarction due to thrombosis which may be altered if lysis can be accomplished in a short time.

2. Mild neurologic deficit existing after a completed infarct. This may afford the patient protection from additional neurologic deficit if an occlusion related to the infarct can be eliminated.

Evaluation of fibrinolytic treatment has proved difficult. The arteriographic approach in demonstrating lysis of an intra-arterial clot has not been successful. Because the course of cerebral infarction is so variable, drawing conclusions purely from clinical observation in a few instances will not be satisfactory.

Whisnant, J. P., et al., *Minnesota Med.*, 43: 593-595,1960.

Methdilazine HCl as an Antipruritic

This antihistamine (Tacaryl R) was administered orally to 373 patients complaining of pruritus associated with various dermatoses. A few adults were given 8 mg. 2 or 3 times daily, but 217 were given 4 mg. twice daily (after breakfast and at bedtime). Children were given 2 to 4 mg. twice daily, depending on age and response. Itching was completely or appreciably relieved in 301 (80.6%). Drowsiness was noted in 29 patients but was moderate, subsiding in some cases with continued administration and disappearing in others when dosage was reduced. The drug was discontinued because of "nervousness" in 4 and lethargy in 3. A patient treated by gastric lavage about an hour after ingesting 30 tablets (120 mg.) in a suicide attempt suffered no ill effects.

Howell, C. M., Jr., *North Carolina M.J.* 21: 194-195,1960.

Doctors and the Law

CHARLES J. FRANKEL, M.D., LL.B., *Editor*

►*When does statute of limitations start to run as to doctor's alleged malpractice in having failed to completely remove and abort unborn child in connection with therapeutic abortion, if plaintiff did not discover until 15 days after original operation that foetus had not been completely removed? When would statute start to run if doctor had told plaintiff after the operation that foetus had been completely removed?*◄

These questions were before the Superior Court of New Jersey, Appellate Division, in *Bauer* vs *Bowen*, 164 A. (2d) 357 (1960). Defendant doctor performed lawful, therapeutic abortion on plaintiff on March 6, 1957. Plaintiff remained in hospital until March 16, 1957. On March 21, 1957, a part of the foetus appeared from plaintiff's body. Plaintiff was immediately taken back to hospital and, on March 22, 1957, defendant performed a D & C. Plaintiff filed suit on March 23, 1959.

Defendant contended action was barred by statute of limitations relating to malpractice which provides that action must be commenced within two years after cause of action accrues. The important issue is on what date did plaintiff's cause of action accrue. If plaintiff's cause of action accrued on March 6, 1957, the date of the allegedly negligent operation, it is obvious that the action is barred. However, if cause of action accrued on March 21, 1957, when plaintiff discovered foetus had not been completely removed, or on March 22, 1957, the date on which defendant last treated plaintiff, the action is not barred. March 21 and March 22, 1957 were, respectively, a Saturday and a Sunday. It is provided by statute that when last day prescribed by law for doing of an act falls on Saturday, Sunday or legal holiday, when public office is closed, act is done within time if done on the next day that public office is opened.

The Court said that New Jersey followed rule that statute of limitations, in malpractice action,

begins to run from day of doctor's negligent act, even though doctor's negligence may not be discovered until some time thereafter and mere fact that treatment continues after single act of negligence, or that confidential relationship of patient and doctor continues, does not postpone running of statute. There are, however, two exceptions to this fundamental rule. First, if injurious consequences arise from continuing course of negligent treatment, statute does not begin to run until treatment is terminated, unless patient shall have earlier discovered the injury. Present case does not fall within this exception. If defendant were guilty of any negligence, it was on March 6, 1957, when operation was performed. There was no assertion of any continuing course of negligent treatment thereafter and what defendant did on March 22, 1957 was corrective, properly done and not negligent. Second exception is that, if doctor has been guilty of fraudulent concealment, statute does not begin to run until fraud is discovered. Plaintiff alleged that doctor had fraudulently concealed truth in that he had informed her that foetus had been completely removed in course of operation and that she did not discover truth until March 21, 1957. The Court said if plaintiff could prove such allegations the action would not be barred.

►*Statute provided that failure of doctor, who prescribes or furnishes a narcotic to an habitual user, to file report, with respect to such prescription or furnishing of narcotics, with state is unprofessional conduct for which doctor's license may be revoked. Report is to include statement as to whether or not patient is an addict. Statute contains no definition of "habitual user." Medical Board revoked plaintiff's license for failing to file reports as to three patients who were found by board not to be addicts. Was board's action proper?*◄

The District Court of Appeal, Fourth District, of California passed on this question in *McMurtry* vs *Board of Medical Examiners*, 4 Cal. Rptr. 910 (1960). Section 11425 of California Health & Safety Code provided that doctor prescribing or furnishing a narcotic to an habitual user shall, within five days after prescribing or furnishing narcotic, file with state a report stating patient's name and address, character of his injury or ailment, quantity and kind of narcotic used and whether or not patient is an addict. Failure to file report is, by statute, declared to be unprofessional conduct for which license to practice can be revoked. Medical Board revoked plaintiff's license for failure to file report as to three patients,

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all of whom board found to be habitual users but not addicts. To first of such patients, plaintiff had, over two years, given prescriptions on 48 occasions; to second, plaintiff had given prescriptions on 24 occasions within five month period; and he had given prescriptions to third patient on 33 occasions over four month period. During time they were treated by plaintiff, all three patients had a pathology necessitating use of narcotics for relief from pain.

Plaintiff contended that Section 11425 was unconstitutional and void because phrase "habitual user" is so vague and indefinite that it is not clear what obligation was that statute imposed on doctor and that, therefore, revocation of his license for violation of the statute was contrary to due process of law. The Court said it was well settled that statute which either forbids or requires the doing of an act in terms so vague that men of common intelligence must necessarily guess at its meaning and differ as to its application violates the first essential of due process of law.

The Court said that term "habitual," especially when referring to use of drugs involves concept of habit. Webster's International Dictionary defines "habit" as: "An aptitude or inclination, acquired by frequent repetition and showing itself in increased facility of performance or in decreased power of resistance; as the opium habit." Under such definition, "habitual user" of narcotics connotes a narcotic addict. Plaintiff argued that term "habitual" as used in statute under consideration was not limited to concept of habit but also included concept of frequent or oft-repeated use. Section 11425 makes distinction between meaning to be given "habitual user" and that to be given "addict" by requiring doctor furnishing narcotic to "habitual user" to include in his report whether or not "habitual user" is an "addict." Therefore, differentiation in definition of the two terms is required. Dictionary definitions of "addict" and "addicted" intrinsically involve concept of habit and compulsive factor which directs addict's action. The Court said that consideration of statutory distinction between an "addict" and an "habitual user" compels conclusion that characteristics of habit present in the addict need not be present in the habitual user, and that definition of latter term does not require the necessary inclusion of these characteristics, but carries broader criterion of frequent use without necessity of addiction. However, such a definition of "habitual user" lacks that certainty of standard required of a regula-

tory statute. Requiring doctor to report prescribing of narcotic to person who frequently uses narcotics gives doctor no reasonable standard for compliance. Doctor has no criterion by which to determine how many instances of narcotics use must transpire before patient becomes a frequent user. Nor does Medical Board, which has power to review doctor's action, have any gauge by which to determine compliance or noncompliance with the statute. To the extent that it requires doctor to as to habitual user who is not an addict, statute is void and revocation of plaintiff's license was, therefore, improper.

►*Is plaintiff in malpractice case entitled to have his case submitted to jury if plaintiff's various expert witnesses, in testifying with respect to essential elements of his claim, do not completely agree with each other?*◄

The U.S. Court of Appeals for the Third Circuit had this question before it in *Dill* vs *Scuka*, 279 F. (2d) 145 (1960). Defendant doctor diagnosed pain in plaintiff's left calf as an embolism and hospitalized him. While hospitalized, plaintiff suffered two embolisms in chest which disappeared after treatment. In order to diagnose cause of blood clotting, defendant, with plaintiff's consent, requested staff urologist to perform aortogram. Urologist, after examining plaintiff and checking his prothrombin time, which was 39 seconds, decided to proceed with aortograph. Urologist attempted to inject dye into aorta but discontinued procedure because not satisfied with nature of the blood which appeared in needle. In week following attempted aortogram, plaintiff suffered great pain, nerve functions in his lower extremities deteriorated and he lost control of his legs from the hips down and was unable to urinate and have normal bowel movements. His condition was described as "flaccid paralysis." Plaintiff contended his condition resulted from attempted aortogram and that defendant was negligent in ordering this procedure under the circumstances. Defendant argued that there was such a clear conflict in testimony of plaintiff's expert witnesses on these issues of negligence and causal connection that plaintiff was not entitled to have such issues submitted to the jury.

Two doctors, testifying as experts for plaintiff, stated that, in their opinion, defendaint in prescribing aortogram for plaintiff when his prothrombin time was 39 seconds, fell below community's standard of medical practice. Another doctor, testifying as expert for plaintiff, stated he did not believe that fact that plain-

tiff's prothrombin time was 39 seconds would, in and of itself, make performance of aortogram on plaintiff negligent. The Court pointed out that this witness had never performed an aortogram and was familiar with aortography only in a vague way and at no point did he categorically state that it was proper procedure under all the circumstances. Two of plaintiff's expert witnesses testified that, in their opinion, plaintiff's condition resulted from the aortogram. Another expert witness for plaintiff testified he did not see how the aortogram could have caused plaintiff's condition but admitted he was completely uncertain as to what was the cause.

The Court said that the rule was that, when plaintiff has burden of proof on issue of fact which goes to essence of any material part of his case and he presents expert witnesses on that issue, he does not sustain the burden of proof and fails to make out his case, if his expert witnesses so vitally disagree on essential points as to neutralize each other's evidence. However, only minor points of difference in testimony of experts does not deprive plaintiff of right to have case submitted to jury. Testimony, on issues of negligence and causal connection, by plaintiff's expert witnesses was not in vital disagreement and his case should, therefore, have been submitted to jury.

►*Is regulation of municipal hospital, requiring all x-rays to be taken under supervision of hospital radiologist, requiring attending doctor to consult hospital radiologist before making decision as to method and dosage schedule for x-ray therapy and providing that such therapy must be administered by hospital radiologist, a valid regulation?*◄

This question was before the Minnesota Supreme Court in *Benell* vs *City of Virginia*, 104 N.W. (2d) 633 (1960). Plaintiff, a specialist in radiology, was hired in 1950 as radiologist for defendant city hospital on part-time basis; he was also member of clinic in city. Hospital terminated arrangement few years later, but offered plaintiff job of hospital radiologist if he would disassociate himself from clinic. When plaintiff refused to disassociate himself from clinic, board hired another doctor as hospital radiologist. Plaintiff thereafter requested hospital to define his rights with respect to radiology department, its staff and equipment. Hospital adopted regulation requiring that all x-rays be taken under supervision of hospital radiologist, requiring attending doctor to consult with hospital radiologist before making decision as to method and dosage schedule for x-ray ther-

apy and requiring that any such therapy be administered by hospital radiologist. However, under the regulation, attending doctor makes final decision as to need, method and dosage schedule for x-ray therapy and hospital radiologist administors such therapy only at attending doctor's request.

Plaintiff contended that, since hospital is publicly supported institution, it is required to make equipment and technical staff in its radiology department reasonably available to qualified radiologists on its active medical staff without restrictions contained in regulation. The Court said that, since regulation was adopted in furtherance of administration, operation and control of hospital, it is valid unless arbitrary or unreasonable. Defendant hospital's basic position was that regulation was reasonable because it follows practice adopted by most hospitals and advocated by American College of Radiologists as calculated to best serve interests of hospitals, patients and medical staffs generally. Various experts, testifying for defendant hospital, expressed opinions that regulation was reasonable. Reasons advanced in support of these opinions were that hospital should select radiologist because of hospital's possible liability in event there was negligence, that diagnosis and treatment of all patients were expedited, that better and more uniform standards by technicians could thereby be provided and that better team work and greater efficiency would be promoted by closed staff arrangements for radiology. Experts, testifying for plaintiff, expressed opinion that regulation was unreasonable. As reasons in support of this opinion, they stated that regulation would hamper visiting consultants in administering radiation therapy requiring daily judgment, that it would deprive attending doctor of right to examine his patient and would require him to make diagnosis based on another's findings, and that it is not satisfactory to require radiologist to look at films taken by another radiologist. The Court said that, when all factors are considered, hospital's adoption of regulation was not arbitrary or unreasonable.

Argument was advanced that regulation invades individual's right, particularly one receiving old-age benefits, of free choice of doctor, as well as doctor's right to treat his patients in public hospital and that hospital is engaging in practice of medicine through employed doctors. The Court said it did not so construe regulation. Most hospitals have adopted this procedure because of nature of x-ray therapy, technical equipment required there-

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in and serious damage that may follow incompetent administration thereof. Majority of doctors recognize advantages of special training in this field and voluntarily refer their requirements therein to specialists with necessary training, equipment and facilities to achieve safe and accurate result. Procedure provided in regulation is only a phase of the steady advancement of specialization in various medical fields, designed to insure patients' safety and to protect hospital in performance of its obligation to them. Nowhere does it violate patient's right — old-age pensioner or other — to select his own doctor or compel doctor to yield to another's decision in treatment of such patient. And nowhere does it deny qualified doctor of right to treat his patient in public hospital.◀

Influenza Immunization

Routine immunization each year should be given to persons of all ages who suffer from chronic debilitating disease, pregnant women, and all persons 65 years or older. The adult dosage for initial immunization is 1.0 cc. (500 cca units) of polyvalent vaccine, administered subcutaneously on 2 occasions separated by 2 or more months. Preferably the first dose would be given no later than September 1, the second no later than November 1. Persons previously immunized with polyvalent vaccine should be re-inoculated with a single booster dose of 1.0 cc. subcutaneously each fall, prior to November 1. The only contraindication to vaccination would be a history of food allergy to eggs or chicken, or a prior history of allergic reaction to an egg-produced vaccine, such as the commercial influenza product.

The time to start such a program is before the onset of the influenza season in the fall. In the past, influenza vaccination has been sparse and sporadic, and primarily in response to an epidemic or the threat of an epidemic. The unpredictability of recurrence of influenza and its continued endemic occurrence are well known. Therefore, the U.S. Public Health Service recommends that immunization of these high-risk groups be continued annually, regardless of the predicted incidence of influenza for specific years.

Burney, L. E., *J. Indiana M.A.*, 53:2220,1960.

The Doctor Builds His Estate

Prepared monthly for the readers of Clinical Medicine by the Research Department of Bache & Co., 36 Wall Street, New York 5.

►These monthly articles point out one method by which the physician may overcome the handicap imposed upon him by taxes on the bulk of his income at normal rates, as opposed to the capital gains tax open to many business men. One solution is systematic investment of current income in securities.◄

One of the primary characteristics possessed by virtually all successful investors is the ability to anticipate change, in the business community in general and in individual companies specifically. The investor who develops a blind spot about a company, who stays "married" to a situation in which once promising prospects have long since fled the scene, is usually the one who wakes up one day with a substantial loss in his portfolio. On the other hand, the enterprising investor who is able to anticipate product innovations (the transistor, for example), who is able to gauge shifts in public appetites and enthusiasms (e.g. the boating craze in the late 50's, the current bowling fad) and who is able to turn his back on an industry that has reached its intermediate growth in favor of a young, but sound, company or group that has yet to reach its maturity, is the one who reaps the harvest.

This month we will examine a group of companies which we believe offer possibilities not yet fully reflected in their prices. They are a varied lot, but all have one basic, necessary characteristic—the ability of management to put through programs designed to bring about basic improvements in the business.

North American Coal Corp.

Our first company is North American Coal Corp. Since 1958, the earnings record of North American Coal has been rather disappointing to its stockholders. However, the worst appears to

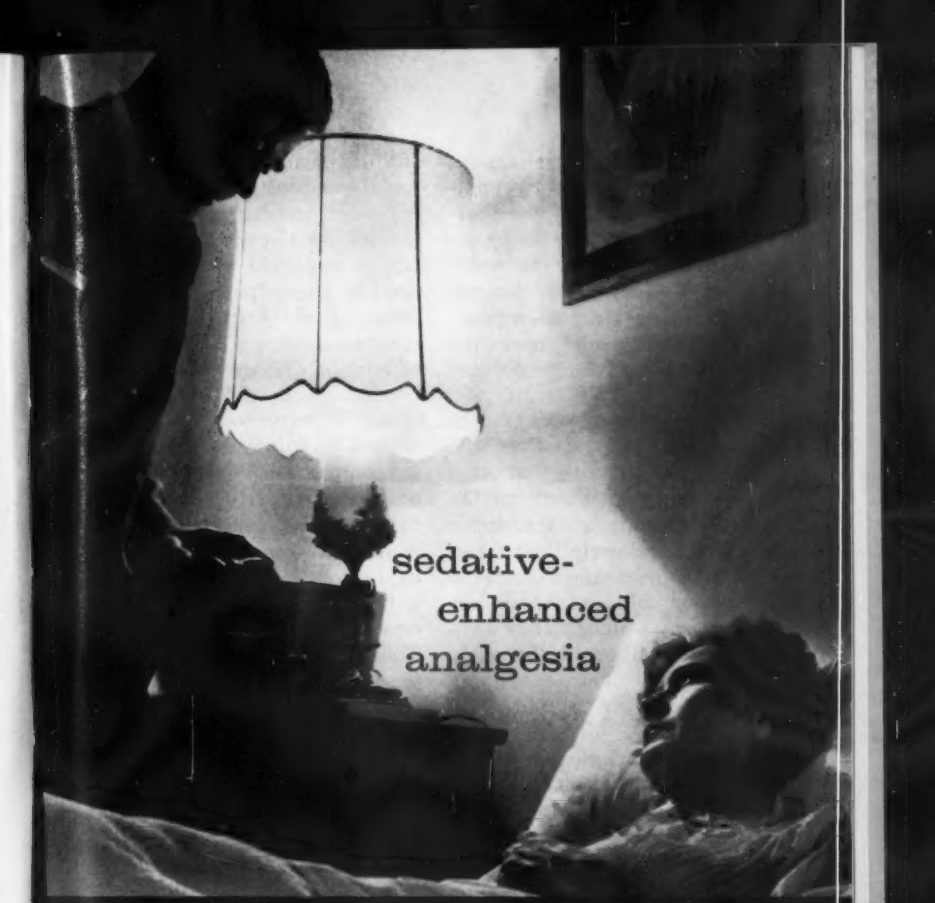
be over. Increased emphasis on sales to the electric utility industry, concentration on the use of highly automated mining equipment, a change in accounting practice and the sale or abandonment of some high-cost properties, have led the way to a recovery in earning power. For the year just ended, earnings of $0.67 per share are expected against $0.42 per share in 1959. For 1961, we look for earnings of approximately $1.00 per share. The company's financial condition remains strong and the present $0.60 dividend appears safe.

Diversification plans for the company are already taking place, and if successful may place North American Coal in a very strategic position in the aluminum industry. Jointly with Strategic Materials, North American has been exploring a process for extracting aluminum sulfate from coal mine wastes. After three years of intensive research and pilot plant studies, a $1 million aluminum sulfate extraction plant with a 40,000-ton annual capacity will be in operation in August of this year. Initially, the sulfate produced will be used to determine the economic feasibility of producing aluminum oxide from coal mine waste shales, clay or high iron bauxite. The general requirements are for a moderate to high alumina content and relatively low alkaline impurities, which act as acid consumers in the process.

The next step would be the construction of a decomposition plant to make alumina, and the construction of a small primary aluminum reduction line. At present (and these are only engineering estimates) the cost of producing primary aluminum with this method is said to be equal to, if not less than, the present cost being experienced by the primary aluminum industry. If this is true, the company can eventually become an important factor in the domestic aluminum industry.

If such a project proves feasible, North American has substantial reserves to meet future requirements. The company now produces some 500,000 tons of mine waste annually at its Ohio properties. This contains an average of 20% alumina (100,000 tons) or 50,000 tons of aluminum. There are 10 million tons of mine waste above ground, and an estimated 200 million tons underground. Furthermore, output of coal and aluminum-bearing mine waste is expected to double because of the expected power development of the area in future years.

As to the company's basic operation, improvement began in 1959 and was finally completed by the end of the first nine months of 1960. First, manage-



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1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

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ment decided to charge against income certain classes of property expenditures which were formerly capitalized. This alone reduced net income by $226,000, or some $0.14 per share. Secondly, certain newly acquired properties, which are now operating at a profit, were being operated at a loss during 1959.

Thirdly, the soft market conditions prior to and after the steel strike severely affected North American's Southern Division operations in the latter part of 1959 and early 1960. However, these properties have now been either sold or abandoned. The company's Mead mines were sold for $1 million in the early part of 1960. The remaining properties which were abandoned resulted in a charge against earned surplus of $2 million. However, because of tax provisions 50% of this amount will be recovered. The earnings which will be reported will be based on a fully taxable rate. However, a tax reserve has been set up, and the funds will be transferred to the earned surplus account.

A steadily expanding electric utility industry continues to be the coal industry's best customer. With use of electricity expected to forge further ahead, reflecting the use of a steadily increasing amount of labor-saving devices in the home and on the farm, and the increasing use of electricity for space heating in homes, and increased industry utilization of power, the electric power industry is expected to continue to double its output every seven years. Last year, this market consumed some 175 million tons of coal or 42% of the industry's production. By 1975, this market alone is expected to consume some 425 million tons, more than the entire 1960 output. By use of these statistics we do not mean to imply that the coal industry is about to enter a period of rapid expansion. However, this market is important to the industry and especially to North American. The company services such utilities as: American Electric Power, Cincinnati Gas & Electric, Cleveland Electric Illuminating, Consumer Power, Detroit Edison, Ohio Edison, Ohio Valley Electric, and Pennsylvania Electric Company.

During 1960, North American sales to the electric utility industry increased to 75% of its total volume. This compares to 51%, 56%, 59%, 62% and 63% for the years 1955 to 1959. Such sales are made on long-term contracts which run anywhere from one to 15 years and longer, and provide for production stability. They allow the mine operator to receive a set price for his production, at the same time benefiting from increased production

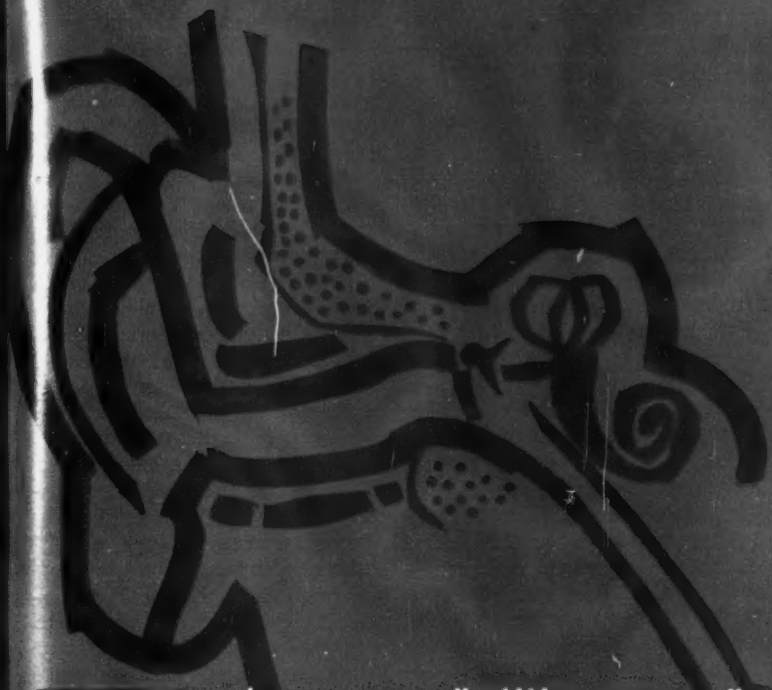
efficiency during the term of the contract. By the same token, he should also absorb any loss of efficiency; but these contracts do have escalator clauses which provide for price adjustments as a result of increased labor costs.

With 75% of its output contracted for, its high-cost property sold or abandoned, North American can concentrate on increasing its profit per ton of coal through increased use of highly mechanized mining equipment. The optimum goal of any coal company is to be able to earn $1.00 per ton before taxes on its production. North American's profit per ton has been well below this for many years. However, through internal consolidation—previously described—and better utilization of equipment, by the fourth quarter of 1960 the profit per ton was up to approximately $0.40. This rate is expected to be maintained throughout 1961, and with additional capital expenditure of approximately $1.2 million and equipment now being tested, the $0.40 per ton before taxes could easily reach $0.60 per ton by 1962. To go beyond this at this time would not be appropriate, but the company does expect to reach the magic $1.00 per ton figure some time in the future.

The above can readily be translated into earnings. For 1961, the company expects to produce and sell approximately six million tons of coal and earnings of $1.00 per share are probable. Looking further ahead to 1962, even if sales only equal those for 1961, earnings of $1.50-$1.75 do not appear unreasonable at this time. The financial condition of the company remains strong. At the end of 1960, current assets approximated $14.3 million. Of this $9 million consisted of cash and government securities. Current liabilities for the year-end totaled $3.7 million. Thus, the present 60-cent dividend rate appears safe.

North American Coal is the eighth largest commercial producer of bituminous coal in the country with properties in Ohio, West Virginia and North Dakota. It has reserves in excess of 300 million tons, or a 50-year supply at present production rates. The capacity to produce coal from its properties is rated at 6.5 million tons annually, which could be increased by an additional 1.5 million tons if the need arose. At the moment, although still in the planning stage, is the possibility of the construction of an electric power plant by the American Electric Power Company adjacent to the company's properties in Ohio. This, of course, would require additional production.

We would classify the common stock of North American Coal Corp. as an intelligent business-



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NORTH AMERICAN COAL CORP.

		Capitalization	
Approximate Price	15	Long-Term Debt	$10,000,000
Dividend	60¢	Common Stock	1,589,603 shs.
Yield	4%		
Traded	O.T.C.		

man's investment. In our opinion, the present price of the shares reflect neither the intermediate- nor long-term gain possibilities available.

Canadian Breweries

The second company up for examination is Canadian Breweries, the world's largest brewer. Historically, the shares of this company have traded with small volume principally on the Toronto Stock Exchange, and usually on a yield basis. Recently U. S. investors have been attracted to the growth possibilities inherent in this situation and the major portion of trading volume has shifted to New York. Based on the company's financial strength, its industry position in Canada, its current expansion activities in the United States and England, and the unusual profits potential for the company's Carlings label in this country, commitments in this issue are encouraged for substantial long-term capital gain.

Before we go any deeper into the company, it would be apropo to study the brewing industry in general. Stocks of the brewing companies were very much out of vogue during the decade of the 1950's, as total industry volume remained static, reflecting the actual decline in the greatest beer-drinking segment of the population, the 21-40 year age group. During that time these issues were recommended only for income and recession-proof characteristics, and usually carried a price multiple of 8-10 times earnings.

Population patterns and economic factors have begun to change, however, and now point to an improved business climate for brewers. First, the bumper crop of war babies has increased the size of the beer-drinking age group and by 1970 the number of these people will climb by 15%. Beer consumption is expected to rise more than proportionally. Then too, more economical production and distribution conditions such as the trend toward packaged goods and dispersed facilities which allow for lower transportation costs, reduced intra-industry competition and a firmer price structure

have all contributed to expanding profit margins.

This happier picture has already begun to be reflected in the operating results of the major brewers, those who have established a leading market position, maintained a consistently strong balance sheet, planned for adequate expansion and demonstrated substantial earning power. While we do not regard these firms as comprising a dynamic growth group, we think the present price-earnings multiple of only 12 times on the shares of the leading brewers does not begin to reflect the change in the earnings picture which is taking place.

It is the large brewing companies which stand to gain most from the industry growth and which present little in downside risk to the investor. These companies have huge plant facilities strategically located throughout the country which allow them to distribute nationally, with a minimum of transportation costs. Adequate capital resources enable them to carry on major promotional campaigns and also provide for further expansion to keep up with increases in demand. Stiff competition from a popular local brand or unfavorable weather conditions during the summer season in a particular area can be offset by compensating good conditions in other parts of the country. On the other hand, small brewers are confined to local areas by the prohibitive costs of national distribution and advertising and are always vulnerable to bad weather during one season and the potential penetration of their areas by the nationals.

The existence and recognition of these factors has resulted in heavy industry consolidation. After World War II, there were more than 400 independent brewers. Today, there are about 200, and we believe the trend toward combination will continue. Ultimately, a very few companies will dominate the brewing industry. Canadian Breweries, Ltd. will be one of these companies.

Canadian Breweries is actually a holding company for a group of Canadian, American, and, most recently, British subsidiaries. The company's Canadian labels account for about half of the beer consumption in Canada, and its American brand—Carlings—has skyrocketed to fourth place in the U. S. Carlings Black Label beer is also distributed in England by seven British companies which have recently merged to form the powerful United Breweries, Ltd. Canadian Breweries controls 10% of United and is the largest single stockholder. Good growth is expected in the U. K. operation.

Company sales have increased

117.5% in the 1956-60 period, while per share earnings have risen 40.3%. Earnings in 1960 came to $3.25 per share compared to $2.95 per share in 1959 and we anticipate 1961 net at around $3.90 per share.

An aggressive acquisition and expansion program, plus a tremendous promotional campaign for Carlings in the U. S., has caused sales growth until now to outpace earnings gains. Most of this increase in sales has come from Carlings, whose barrel volume has soared 400% since 1952 and whose growth is expected to continue at about 10% a year. The Canadian brewing industry, on the other hand, is virtually an oligopoly of three large firms, and since CNB already has half of the Canadian market, the growth of this segment of the company's operations is anticipated to continue in line with the industry at about 4% yearly.

The key to future profits potential lies in the unique status of Carlings, the company's U. S. subsidiary. Even discounting enormous expansion and advertising costs, Carlings has so far contributed an inordinately small portion of total company income, for while half of the company's volume is sold in the U. S., only about 20% of profits have been derived from U. S. sales. The reason is that the company has followed a policy of underpricing Carlings to distributors, providing them with a high mark-up in order to gain firm entrenchment in a market area. Carlings has been selling for $30.55 per barrel compared to the U. S. industry average of $35.62 and profits accruing per barrel to Canadian of $0.50 per barrel. However, now that the brand is so well established, Carlings has a lot of pricing and profit margin leeway with which to come up to the U. S. industry average while still remaining competitive. Although the 1960 breakdown is not yet available, we have estimated that profits per Carlings barrel have already increased to about $0.65 and by the end of 1961, this figure should range upwards from $0.75. This would mean to the stockholders earnings of $3.85-$4.00 per share for the current year. Projecting further, and making the assumptions that Canadian profits per barrel remain around the $2.25 level, U. S. profits per barrel rise to $1.50 and that the company operates at 85% of the proposed 13.5 million barrel capacity, consistent with its growth rate to date, earnings per share could exceed $5.50 by 1964. And this does not include the operations of United Breweries, Ltd. in England.

In our judgment, the potentials for earnings growth and price appreciation are substantial, and make the shares of

Canadian Breweries

Price	48	Capitalization	
Dividend	$1.70	Long-Term Debt	$59,584,000
Yield	3.5%	Common Stock	4,202,207 shs.
Traded	N.Y.S.E.		

Canadian Breweries at about 12 times anticipated 1961 net and only 8 times a high cash flow an unusually attractive investment opportunity. Very few situations offer such promise of growth at such a low price regardless of industry group. Moreover, the shares are statistically cheaper than most of their sister issues, including smaller companies with spotty and erratic earnings records and future prospects that are dubious at best. The company's financial condition is formidable, and while funded debt has always been large, the return on capital investment is far above average. The $1.70 dividend provides a reasonable yield and we expect that it will be generously increased as higher earnings levels are reached.

Murphy Corp.

Our final company for examination is Murphy Corp., a medium-sized oil producer and refiner. New factors which will come into play during 1961 and 1962 could prove to be of substantial importance to the operations of this company. In the production end of the business, the interest lies in recent offshore developments in three different areas in offshore Louisiana. Murphy has a 50% interest in Block 129-A in the Eugene Island area, where production started in October, 1960. By December gross production totaled 700 barrels per day and should reach 900 barrels per day next month. In nearby Block 110, Murphy (through its 52%-owned subsidiary, Ocean Drilling & Exploration Company) has a share in production which totaled 1,850 barrels per day by October, 1960.

Ocean Drilling has a 46% interest in this production. Immediate expectations are for an increase to 2,000 barrels per day. The third area of significance is near the South Pelto area, where Murphy holds a 37% interest in two blocks of acreage. Discovery and development wells have been drilled and production is expected to be on stream by this summer, at the rate of 700 barrels per day. In summary, the offshore Louisiana area is an exciting one and production from this area could increase substantially.

Refinery operations are the second substantial plus factor. Murphy operates a 15,000-barrel-per-day capacity refinery in Wisconsin. At the present time the production yield is heavily weighted in favor of residual fuel oil, at the expense of higher-priced middle distillates and gasoline. Based on present Gulf Coast prices, a barrel of gasoline sells for $4.725, compared to $2.30 of residual fuel. Operations in 1960 showed the product mix to be 36% for residual fuel, compared to 11% for the industry; and 31.5% gasoline, compared to 51% for the industry. To improve this yield factor, Murphy has decided upon a $6.5 million capital expenditure program, to be completed by the end of 1961, to modernize its refinery. The aim of the program is to upgrade the product mix so as to bring yields more in line with industry averages. If this can be done, net income could increase about $0.60-0.70 per share at present product prices. What makes the possibilities of this program so pleasing is that Murphy now is a large net purchaser of gasoline, due to its recent acquisition of Spur Oil Co., a large marketing organization which sold well over 100 million gallons of gasoline last year.

Murphy has grown since 1956 from a small producer of oil and gas into an integrated oil company whose marketing volume considerably exceeds its current production and its refinery capacity. Murphy's rate of growth in internally generated cash averaged 17.5% per year from 1951 to 1960 and from 1957 to 1960, 9%. Even after several acquisitions made through exchange of stock, cash flow per share grew at an annual rate of 7.4% in the last three years.

While acquisitions have played an important part in the growth of the company, the above-average increase in cash flow resulted primarily from the expansion of its crude oil and natural gas production, particularly the addition of 4,000 barrels per day of crude oil produced in Venezuela, all of which is now being marketed either as crude oil or in the form of finished products. The obtaining of captive markets for its enlarged crude oil production has helped Murphy greatly in maintaining this higher rate of oil production, and at the same time the company's investment in distribution and refinery facilities has produced a reasonable rate of return which should benefit from the recent improvement in product prices.

In addition to its petroleum activities, Murphy Corp. owns in fee 182,000 acres of timberland, mostly Southern Pine; has a 50% interest in a small but growing bromine chemical business;

MURPHY CORP.

		Capitalization	
Price	26	Long-Term Debt	$32,842,617
Dividend	50¢	Common Stock	3,296,061 shs.
Yield	1.9%		
Traded	A.S.E.		

and has a 52%-owned subsidiary, Ocean Drilling & Exploration.

Summing up, we conservatively estimate that 1961 net should approximate $1.70 per share. This compares with $1.36 a share in fiscal 1960, ending May 30, and $0.71 per share (after nonrecurring income) for the six months ending November, 1960, both figures being prior to the merger with Spur Oil. The company has now shifted to a calendar fiscal year. Per share earnings for 1962 could reach $2.50. It is for these reasons that we find Murphy a most attractive speculation.◄

Psychopathic Personality

The psychopath is one who does not fit readily into other psychiatric categories, who is persistently antisocial or asocial, and who needs treatment. In practice nothing is gained by trying to draw a distinction between psychopathic and chronic offenders. It is difficult to distinguish aggressive from inadequate psychopaths, since they seem to have many more resemblances than differences.

One of the major obstacles in research concerning motivation of these individuals will be the difficulty of obtaining crucial information, e.g., on the early learning environment. All forms of treatment of psychopaths are as yet inadequately, or not at all, assessed; furthermore, it would seem that a variety of methods are being applied without adequate assessment of the individuals to be treated.

Scott, P. D., *Brit. M.J.*, 1:1641-1646,1960.

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Reference: 1. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

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The Doctor and His Federal Income Tax

Prepared monthly for the readers of Clinical Medicine by Sydney Prerau, Director, the J. K. Lasser Tax Institute, Larchmont, New York

►*Treasury crackdown on dividend and interest reporting*◄

The Treasury is continuing its drive to close the gap between the dividends and interest paid to taxpayers and the amounts reported on tax returns. The enforcement program launched in 1959 has resulted in a 16% increase in returns reporting dividends, and a 26% increase in returns reporting interest, over 1958. Audit reports on 1891 of 8000 selected cases where returns indicated possibility of failure to report properly dividend income (and 1115 cases involving interest income) resulted in marked increases in taxpayers reporting such income in full or part in 1959, as against those who failed to report any, or only part, in 1958. Over 400 cases involving failure to report properly dividend and interest income are now under investigation. In 1960, 55 indictments were returned in similar cases, and 54 convictions were obtained. Convictions resulted in fines up to $60,000, and imprisonment in some cases up to 6 years.

►*Fellowship grant to resident physician excludable from gross income*◄

Scholarship or fellowship grants at an educational institution are excluded from income, up to $3,600 a year for four years. But, where a student is a candidate for a degree, the payments are not excludable if they represent compensation for teaching or other services—unless such teaching or other services are required of all candidates for such degree. A Minnesota jury recently found for a doctor who sued the government to obtain a refund for income taxes paid on a fellowship grant from the University of Minnesota. Dr. Anderson was graduated from the University Medical School in 1956 and served his internship at Mil-

waukee County Hospital. He then became an assistant resident physician at the Veterans Administration Hospital in Minneapolis. While there, he enrolled in the Graduate School of the University for an advanced degree in Internal Medicine. All candidates for this degree, M.S. in Medicine, were required to have clinical training for four years, and to serve as assistant resident physician in an affiliated hospital during most of that period. The Veterans Hospital at Minneapolis was one of the hospitals affiliated with the graduate program leading to the M.S. in Medicine.

Dr. Anderson served as assistant resident physician at the Veterans Hospital in 1958 under the supervision of the University's Department of Medicine. He received as a fellowship grant that year $3,147.83, and included it in gross income. Later he sued for a refund of the $447 taxes he paid claiming he paid them erroneously because the grant was excludable. The Court instructed the jury that if it finds that the services Dr. Anderson performed were required of *all* candidates for the degree, and the payments were made to advance the education and training of such candidates, then they must find for the doctor. But, if the jury finds the payments were made for past, present, or future employment services, or for any services subject to the direction of the University, the payments are *not* fellowship grants, are includible in gross income, and the verdict must be for the government. The jury found for the doctor and he recovered the taxes as erroneously paid. (Anderson v. U.S., D.C. Minn., 11/15/60).

►*Deductions must be proved*◄

A doctor may deduct entertainment expenses provided he can show that such expenses are for business and related to the production of business income. The doctor must show the entertainment had a direct relationship to the conduct of his practice and that a business benefit can reasonably be expected from the expenditure.

Here's how Dr. Richard Sutter's entertainment expenses fared in the Tax Court.

For some years, Dr. Sutter specialized in industrial medicine in St. Louis, Mo. where he conducted the Sutter Industrial Surgical Clinic. He employed a full-time physician, a part-time physician, and at least two registered nurses. His clients (who paid his fees) were the commercial and industrial organizations which employed his patients or the insurance companies which in-

sured those organizations. He did not obtain patients from other doctors and patients, nor did his private practice involve any substantial number of patients who consulted him of their own volition.

Dr. Sutter claimed as business expenses flowers to nurses' groups, hospitals and Christmas parties and candy and tickets to telephone operators, elevator operators, secretaries and parking lot attendants. He also attended numerous luncheons of the St. Louis Chamber of Commerce and the Hospital Council of St. Louis and claimed deductions for the cost of his own meals. He also deducted the cost of a hunting trip, the cost of printing and distributing an article written by him concerning industrial surgery.

All these expenses were disallowed in full. The doctor did not show in what respect and to what extent, if any, his claimed deductions contributed to the earning of his income.

Dr. Sutter also deducted his entertainment costs aboard his cabin cruiser and the depreciation on it. The Court allowed 25% of the amount claimed for these items, saying: ". . . it is evident that only a part of these expenditures may be characterized as the ordinary and necessary consequences of petitioner's (the doctor's) trade or business. To some extent they were entirely personal in nature being on the one hand costs of entertainment for petitioner and his family and on the other partly social occasions. In some degree they were also a means of enhancing petitioner's prestige and the future possibility of expanding his clinic business so as to be the means of creating a capital asset comparable to good will . . . And how these elements, particularly the former, may be separated from actual business expenses is not, in spite of petitioner's careful record keeping, to any extent discoverable from the evidence. Because of these considerations we have found that the amounts deductible by petitioner as ordinary and necessary business expenses in the two allowable categories of entertainment and cabin cruiser expenses and depreciation are 25% of those now claimed by him." (Sutter v. Commissioner, 21 TC 170, Dec. 19, 966 (acq.).

►*Some Blue Cross-Blue Shield payments to physician are reported to treasury*◄

Every individual, partnership, or corporation must inform the Treasury of certain payments they make. When you file your return, the service checks your return against this information.

Corporations report dividend payments of $10 or more. Banks file information returns as to interest payments of $600 or more in one year. Savings and Loan Associations report dividend payments of $600 or more. An information return must be filed by anyone in a *trade or business* who pays $600 or more for professional fees to doctors, lawyers, accountants, etc.

The Blue Cross-Blue Shield medical service, operating as the fiscal administrator for a state medical society charged with disbursing Government funds to physicians who participate in a Federal medical program, must file an information return for each physician to whom it makes payments of $600 or more in a taxable year. (Rev. Rul. 59-328).

►*Beware of art contribution gimmick*◄

Zooming art prices tied in with the income tax advantages the law allows for contributions of property to charitable organizations, has spawned a new black market. It revolves about the tax principle that a donor of property which has appreciated in value gets a contribution deduction for the current value of the property. In addition, the donor avoids the capital gains tax on the difference between his cost and the property's value at the time of the contribution.

On this principle, many tax "gimmicks" are in circulation—all of which will generate Treasury crackdowns. Some are outright frauds; others so close to the line they are sure to induce Treasury investigation resulting in a series of headaches for the participants. All of these involve questionable religious institutions or charitable organizations, illegally trading on their tax-exempt status. Here is a rundown of "gimmicks" to beware of:

1. The come-on usually is: "Have you any paintings, sculpture, or other art objects cluttering up your attic? They can be turned into good tax savings." You look through your attic and come up with a water color that you've had for years. Here's the deal. You'll get an appraisal from an "expert" that the water color in today's market is worth $5,000, which everyone concerned knows is phony. There's a charitable organization that will give you a receipt for the painting as a donation. Then on your 1960 income tax return you can deduct $5,000 as a contribution. A $5,000 deduction even in your low 43% bracket means a tax saving of $2,150. The deal arranger will ask only $250 for his idea. You seem to have turned a discarded object into $1,650. If and when your return is exam-

ined, you'll have the appraisal and the charity's receipt to substantiate your deduction. "It's foolproof." That is, until the Revenue agent starts to ask some very embarrassing questions.

Problems of valuation (and the contribution deduction here revolves around the question of the fair market value of the painting) are not unusual for Revenue Agents. For example, valuation is generally the nub of a casualty loss deduction. What was the value of the property destroyed by the casualty for which you are claiming a deduction? Because of the volume of art contributions, some District Director's offices have specialists who know or have access to information on the current value of all kinds of art objects.

2. A friend of a friend of yours knows where he can get the portrait in oils of an important benefactor of a charitable organization. He'll give you the painting and also get you a certification of its present value at $5,000. The charitable organization will accept the portrait when you sweeten the pot with a cash donation of $250. Your advisor wants $250 for his work. He shows you—the tax deduction is worth $2,625 in your 50% tax bracket for you will take the $250 you donated to the charity as a deduction in addition to the $5,000 value of the portrait. Your total cost is $500 and you stand to make $2,125.

3. You are propositioned to buy a painting for $1,000. You are assured that this price is way below its present value and you will get a certificate from an "art expert" that its worth $10,000. You are also assured that a charitable organization will accept it as a contribution. If you are in the 60% bracket, your $10,000 charitable contribution saves you $6,000 in taxes. Your total cost is the $1,000 you paid for the painting and the $500 you have to pay to the proposer of the scheme. You're in $4,500, apparently.

4. Joe Doakes is something of an art collector. He is approached with this proposition. A charitable organization has come into possession of a fine oil painting easily worth $25,000 in today's market. The organization can be induced to present the painting to Mr. Doakes in appreciation of a cash contribution of $25,000. The deal goes through. Doakes has his cancelled check for $25,000 to prove his deduction. He also has the painting. In his bracket, a $25,000 contribution saves him some $15,000, less the 5% fee paid as commission to the arranger of the deal. Doakes actually bought a piece of property and is falsely claiming a con-

tribution deduction. In addition, he has bought himself a tax headache. How is he going to dispose of the painting? If he sells it, he'll have to report his cost. If he donates it, he'll probably be asked where he got it.

5. A variation of the Joe Doakes deal occurs when he and another collector each has a painting desired by the other. Working the deal through two charities, each gets his desired painting, the fraudulent charitable deduction, and a sure run-in with the Treasury.

There are many other variations of the phony charity contribution racket. Beware of all of them. You can be quite sure the Treasury is fully aware of what's going on.

But do not let the illegitimate use of a legal privilege deter you from taking advantage of the tax benefits granted bonafide lifetime contributions of art objects. The tax law, moreover, allows you to give away art and keep a string attached at the same time. You can make a gift now of your art to a museum, educational institution, or other charitable organization, retaining possession during your life. You are entitled to a contribution deduction for the value of the art that is to go to the charity on your death. Because of the delay in the charity's receipt, the current value of your art is discounted to determine your charitable contribution according to Treasury tables. You pay no capital gains tax on the appreciation in value of the art while it is in your possession.

Example—Dr. Jones has a Cezanne. Its bonafide present value is $100,000. He makes a gift of the Cezanne to his local art museum, retaining a life interest. At. Dr. Jones' age, 60, using the Treasury tables, he can deduct $60,321 as a contribution deduction on his income tax return. He pays no capital gains tax, regardless of what the Cezanne cost him originally.

Another way to make the contribution is to split your ownership of the art. Transfer a fractional interest immediately to a museum. This will give you possession for your fractional interest of the year, with the museum having possession of the picture for the rest of the year. You get a charitable contribution deduction now for your fractional interest of the present value of the art. Here, too, no capital gains tax is incurred.

Example—Dr. Smith's Picasso is currently valued at $75,000. He makes a deed of gift to his local art museum of a one-third interest. He has the Picasso for 8 months, the museum has it for 4. His contribution deduction this year is $25,000.

The maximum allowable deduction for contributions to the usual museum is 25% of your adjusted gross income. Thus, you lose a part of the $25,000 deduction in the example above if your adjusted gross income is less than $125,000 and you have made other charitable contributions during the year. To overcome this possible tax loss, your fractional interest this year can be arranged so as not to exceed your ceiling on charitable contributions. Next year you can make a similar arrangement, considering your charity-giving ceiling.

Zooming values of art can boomerang in a tax jolt. The present value of his art is included in the estate of the collector at his death to boost his estate tax. Thus, a common practice is to will the art to a museum. Instead of increasing the worth of the estate, the appreciated value of the art offsets other assets in the estate and cuts the tax.

►*Your investment club and taxes*◄

More than 20,000 such clubs have been formed by groups of friends, business associates, etc. who pool their resources and know-how seeking greater profits in the stock market. To avoid taxable status as an association or a partnership, almost all such clubs are set up in partnership form. How can you make sure your club will be recognized as a partnership for tax purposes? By avoiding such corporate features as continuity of life, limited liability, centralized management and transferability of membership. For example, the Treasury says this club is a partnership and not a taxable association: It is formed to educate its members in investment principles and to share investment income. Its organization agreement provides it is not to terminate on the withdrawal or death of any member, and it terminates upon the vote of ¾ of its members. However, under the local law applicable to this club, one member has the power to dissolve it. Club business is carried on at regular meetings of the membership. Buy-sell action is taken by the club only when voted by a majority of the members present. Officers are elected, but their authority is ministerial only, e.g., presiding at meetings, etc. No member may transfer his membership. Members are personally liable for club debts.

Note: It is wise to seek the advice of an attorney in drawing up your investment club agreement.

►*Hobbies and taxes*◄

An American without a hobby

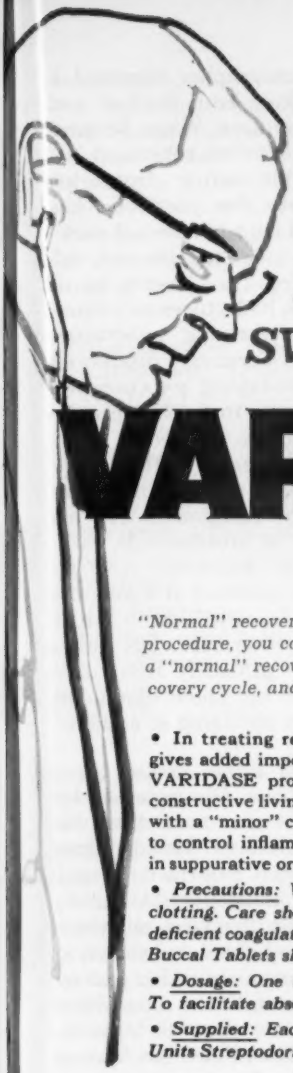
today is certainly in the minority. And physicians are no exceptions. Hobby costs, as such, are not tax deductible. But when a hobby becomes a trade or business, or is a source of income, then the costs of producing that income can be deducted in computing your income tax.

When does a hobby become a trade or business? There are no exact tests that can be used to determine this. It is a question of fact that varies in each individual case. One widely used test is whether you spend a major or substantial amount of time in the activity to make a profit or livelihood. This test covers your professional activities and there is no question that you are in a trade or business there. But suppose, in addition, you raise pedigreed dogs for sale? Or you own and operate a farm? The law does not limit your income-producing activities to one profession or business. You may be a physician and still engage in other income-producing activities. And your expenses in your sideline activities are tax deductible.

Hobbyists who are entitled to their costs as business deductions can deduct these from gross income and in addition take either the standard deduction or itemize their personal deductions.

What makes a hobby cost a business deduction? Factors which determine your hobby to be a business even though it occupies only part of your time are —the use of employees and the number of them; the amount of activity; how much you produce for sale; whether you maintain a separate office for these activities; and the period of time you devote to the side-line. Using these tests to determine your principal activity—the practice of medicine—you deduct all your costs and expenses in the practice of your profession. But the point to emphasize here is that if your hobby, too, takes on similar profit-seeking aspects of your medical practice, then, it too becomes a business activity, the ordinary and necessary costs of which are likewise fully deductible.

Even when your hobby does not take on the aspects of a full-fledged activity as a business, the costs might still be deductible. You can get these deductions when you show that your intent in conducting the hobby activity is to make money. Technically, it is a profit-seeking venture. As such, you are entitled to deduct what the law calls nonbusiness expenses. Factors determining this might be the limited time you spend in the operation, its small scale, and the casual or isolated sales you make. But you must show your intent to make a



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• ***Precautions:*** *VARIDASE has no adverse effect on normal blood clotting. Care should be taken in patients on anticoagulants or with a deficient coagulation mechanism. When infection is present, VARIDASE Buccal Tablets should be given in conjunction with antibiotics.*

• ***Dosage:*** *One buccal tablet four times daily usually for five days. To facilitate absorption, patient should delay swallowing saliva.*

• ***Supplied:*** *Each tablet contains 10,000 Units Streptokinase, 2,500 Units Streptodornase. Boxes of 24 and 100 Tablets.*

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profit. Failure to prove profit-seeking motives will cause you to lose your deductions because your activity will be considered a hobby and your costs personal expenses—which are not deductible. Where your hobby costs are nonbusiness expenses in a profit-seeking venture, the costs are deductible as an itemized expense. When deductions are mixed in a tax return, you get them by electing not to take the standard deduction.

Here are some actual situations showing how the courts have treated the deduction of costs in a sideline activity—

1. A patent attorney lost $11,000 in a flower-raising business. The Treasury disallowed the loss as a nondeductible hobby loss, claiming he could never have reasonably expected a profit from such a business. The court disagreed. Because an experienced horticulturist might not have reasonably expected a profit it does not follow that a patent attorney would not have expected one. The attorney convinced the court he had no personal interest in flowers. And if he had, that interest would never have been satisfied as he and his family were never on the farm when the flowers bloomed. Moreover, when he realized he could not make a profit, he gave up the business.

2. A photographer operated a studio, taking both portrait and outdoor pictures. When he gave up the studio he continued his photographic work from his home. Over the years, he has made field trips to national parks where he takes movies and still shots. Using his pictures as illustrations, he lectures on national parks receiving substantial fees. The Treasury disallowed his picture-taking expenses on the grounds that photography was his hobby. The court overruled the Treasury. Here photography was more than a mere hobby. The equipment was the type used by professionals, rather than by amateurs. And although he operated at a loss, the taxpayer intended to make a profit. Furthermore, his other income — primarily from dividends—did not show him to be a rich man indulging in a hobby.

3. A real estate dealer raced trotting horses. His expenses for the year were more than his horses' winnings. He deducted the difference. But the court said he had a nondeductible hobby loss because the farm on which he kept the horses was shown as an inventory asset of his real estate business. If he considered his racing activities as business, he would have listed the farm as an asset in the racing business, not as inventory of his real estate

business.

4. A backer organized several ballet companies, one of which continually lost money. Seeking to make it an operating success, she advanced it funds. She deducted these as losses, incurred in a profit-seeking venture. In making the advances, which the court disallows, she was not motivated by a desire to make money—as evidenced by the repayment terms. An advance was to be returned only out of half the profits of a season. And if there were no profits, her right to repayment was lost despite profits in succeeding seasons.◀

Management of Patients with Schizophrenic Reactions

Treatment for the various degrees of schizophrenic reaction is provided in office practice or in clinics, and in some instances hospital care may be needed. In many cases, outpatient care after hospitalization enables a patient to maintain a place for himself in the community.

Patients need help in managing transference feelings and the guilt and anxiety connected with them. The psychiatrist can give guidance and support and often must accept being a kind of sounding board against which the patient expresses his hostile and aggressive feelings. Prolonged and close contacts with staff members provide healthy examples of mature adults responding well to the various trials of everyday life.

Program activities for men such as the punching bag and games such as bowling, tennis and golf serve a good purpose. For women knitting, clay work, and metal work can play a similar role. Convalescent patients can make purposeful choice.

In the concluding weeks of treatment the patient may visit away from the hospital for increasing periods with relatives and friends and gradually reenter everyday life outside the hospital. On the convalescent hall the patient will usually start commuting to his job in life, at first returning to the hospital at night, gradually spending increasing periods at home. By this time relatives, friends, and even employers of the patient have had the opportunity to discuss with the physician what can be expected of the patient as well as any apprehensions or misconceptions entertained. Vocational advisors assist the patient in accepting his place in accordance with his personality assets and motivations.

McKnight, W. K., et al., *New York J. Med.*, 60:2249-2257,1960.

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►Calcidrine Syrup *(Abbott)*

Each fluid ounce contains 64.8 mg. of codeine phosphate as codeine, 25 mg. of pentobarbital sodium, 25 mg. of ephedrine hydrochloride, and 910 mg. of calcium iodide, anhydrous, in an aromatic syrup. *Indications:* For coughs due to colds. *Dosage:* Adults, one to two teaspoonfuls every two to four hours. Children six to 10 years of age, one teaspoonful. *Supplied:* In bottles containing 4 fluid ounces, pints, and gallons.

►Hydrocortone Phosphate Injection
(Merck Sharp & Dohme)

Each vial contains 100 mg. of hydrocortisone as hydrocortisone 21-phosphate disodium salt. *Indications:* For use parenterally in any emergency situation requiring rapidly acting corticosteroid therapy, including adrenal crisis, acute life-threatening infection, thyroid crisis, croup and as pre- and post-operative support in patients undergoing bilateral adrenalectomy or hypophysectomy. *Dosage:* Intravenously, intramucsularly, or subcutaneously. *Supplied:* In 2 ml. vials.

►Dimetapp Extentabs *(Robins)*

Each continuous release tablet contains parabromdylamine maleate, 12 mg.; phenylephrine hydrochloride, 15 mg. and phenylpropanolamine hydrochloride, 15 mg. *Indications:* For symptomatic treatment of common cold, allergies, acute upper respiratory infection, acute sinusitis and acute rhinitis. *Caution:* Administer with caution to patients with cardiac or peripheral vascular diseases and hypertension. *Dosage:* One tablet morning and evening, or as indicated. *Supplied:* In bottles containing 100 tablets.

►Enovid 5 mg. Tablets
(Searle)

New tablet size. Each tablet contains 5 mg. of norethynodrel and 0.075 mg. of ethynylestradiol 3-methyl ether. *Indications:* To be used cyclically for ovulation control. *Dosage:* One tablet daily beginning on the fifth day of the menstrual cycle and continuing through the twenty-fourth day. Each cycle of medication is begun on the fifth day *whether or not* the menstrual flow has ceased. *Supplied:* In vials containing 20 tablets.

►Lucanthone Tablets
(Burroughs Wellcome)

Each tablet contains 200 mg. of lucanthone hydrochloride. *Indications:* In the treatment of schistosomiasis. *Dosage:* Orally, 15 mg. per kg. daily, divided into three doses, for seven days. *Caution:* Caution is advised in the presence of impaired kidney function or severe hepatic damage. *Supplied:* In bottles containing 30 tablets.

►Coricidin Syrup *(Schering)*

A combination of *Chlor-Trimeton* maleate, dextromethorphan hydrobromide, sodium salicylate, sodium citrate, glyceryl guaiacolate and caffeine. *Indications:* For relief of coughs, aches, and pains accompanying a cold. *Dosage:* Usual dosage is one or two teaspoonfuls initially, followed by one or two teaspoonfuls every two to four hours as needed. Total dosage should not exceed eight teaspoonfuls daily. *Supplied:* Four ounce, 16 ounce, and gallon bottles.

►Antivert Syrup *(Roerig)*

New dosage form. Each 5 cc. teaspoonful contains meclizine equivalent to 6.25 mg. of meclizine hydrochloride and 25 mg. of nicotinic acid. *Indications:* For the treatment of vertigo, Ménière's syndrome, and those conditions of apprehension and mental confusion which may arise from nicotinic acid deficiency. *Contraindications:* Severe hypotension and hemorrhage are contraindicated for this therapy. *Dosage:* Adults, two teaspoonfuls given three times daily just before meals. Specific requirements should be individualized. *Supplied:* In pint bottles.

►Chlormycetin-Polymyxin Ophthalmic Ointment
(Parke, Davis)

Contains chloramphenicol, 1% and polymyxin B (as sulfate), 5000 units per Gm. *Indications:* For treatment and prophylaxis against external ocular infections. *Dosage:* Apply locally two to four times daily. *Supplied:* In ⅛ ounce tubes.

►Parnate Tablets *(S.K.F.)*

Each tablet contains 10 mg. of tranylcypromine. *Indications:* For the symptomatic treatment of mental depression, including dejection, self-depreciation, decreased activity, difficulty in making decisions, disturbed eating and sleeping patterns. *Dosage:* To be individualized. *Supplied:* In bottles containing 50 tablets.

►The Acute Medical Syndromes and Emergencies: Diagnosis and Treatment

by Albert Salisbury Hyman, M.D., Associate Clinical Professor of Medicine, New York Medical College; with the collaboration of Samuel Weiss, M.D., Professor of Gastroenterology Emeritus, New York Polyclinic Medical School; George Guttman Ornstein, M.D., Associate Clinical Professor of Medicine, New York Medical College; Howard F. Root, M.D., Medical Director, Joslin Clinic, Boston; Anna Ruth Spiegelman, M.D., Assistant Professor Clinical Medicine, New York University Postgraduate Medical School; and Jack Abry, M.D., Associate Attending Physician, New York City Hospital, Landsberger Medical Books, Inc., New York. 1959. $8.75

The emergencies discussed are cardiovascular, gastrointestinal, pulmonary, diabetic, renal, and the emergency of barbiturate intoxication. The authors are teachers in institutions of the highest repute. Most of the opinions expressed are based on personal experience of the writers and represent their judgment in certain critical situations which have issues subject to debate. Certainly, every doctor of medicine needs to keep up-to-date on diagnosis and treatment of medical emergencies.

►Ciba Foundation on Hemopoiesis, Cell Production and its Regulation

editors for the Ciba Foundation: G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., with 107 illustrations. Little, Brown and Company, Boston. 1960. $11.00

There is so much truth in the saying "the blood is the life" as to make the study of blood production a study second to none in importance to the human race. This, the 60th of these Symposia, is an elaborate discussion of the most recent findings in the field of hemopoiesis. The contributions are made by some 30 authorities from a dozen countries of the world and cover the whole field. Every biologist and every doctor of medicine should have an intimate acquaintance with the contents of this volume.

►The Management of the Doctor-Patient Relationship

by Richard H. Blum, Ph.D., Formerly Director of Research, Medical Review and Advisory Board, California Medical Association and Associate Scientist, Stanford Research Institute; foreword by Joseph Sadusk, M.D., Chairman, A.M.A. Committee on Medical-Legal Relations; and Rollen Waterson, Formerly Executive Secretary, Alameda-Contra Costa Medical Association. The Blakiston Division, McGraw-Hill Book Company, Inc., New York. 1960. $8.50

In meetings of medical societies, in articles in medical journals, and in books a great many doctors of medicine and a great many others tell us about the multitude of things that are wrong with the doctor-patient relationship, and just what doctors should do about it. I am convinced that there is nothing very wrong with this relationship, that what little there is arises from the action of the very few of us who overcharge and the fewer who neglect the patients. Nothing that can be said or done will influence members of these 2 groups. Patients and doctors would be well served by everybody leaving off the discussion of the doctor-patient relationship. Persons who have got along so far in life as to become practitioners of medicine, yet have not learned how to treat patients with consideration, honesty, and intelligence, cannot be taught after entering on the practice of medicine.

►Release from Sexual Tensions; Toward an Understanding of Their Causes and Effects in Marriage

by Mary Steichen Calderone, M.D., M.S.P.H., and Phyllis and Robert P. Goldman. Foreword by Robert W. Laidlaw, M.D., Chief, Department of Psychiatry, Roosevelt Hospital, New York. Random House, New York. 1960. $4.95

The foreword tells us that this book is written for adults of all ages and includes chapters on current attitudes towards sex, physical aspects of sexual tension, jealousy and hostility as causes of tension, sex fulfillment in marriage, sexual aspects of divorce, sex in old age, and much more.

As one who has never been able to learn just what the much-bandied-about word "tension," means, this reviewer passes on this statement: "Without recourse."

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►Edema—Mechanisms and Management: A Hahnemann Symposium on Salt and Water Retention

edited by John H. Moyer, M.D., Professor and Chairman of The Department of Medicine, Hahnemann Medical College and Hospital; and Morton Fuchs, M.D., Assistant Professor of Medicine, Hahnemann Medical College and Hospital. W. B. Saunders Company, Philadelphia and London. 1960. $15.00

This book is a comprehensive review by 90 authorities of what is known of the mechanisms, and the means of treatment, of edema, so much of which we owe to the authors themselves. Knowledge of the maintenance of fluid and electrolyte balance gained in the past score of years has contributed largely to the improvement in the results of medical and surgical treatment. The same may be said of discoveries in the pharmacology and therapeutic use of diuretics. Very pertinent is the discussion of iatrogenic edema, now a not uncommon development. Whole sections are devoted to hypertension, toxemia of pregnancy and premenstrual tension, edema of renal origin, edema associated with liver disease, and congestive heart failure. Each section has its own elaborate bibliography. One need have no hesitancy in saying this is the most complete coverage of this subject of the very first clinical importance which has ever been offered to the medical man.

►Cardiac Auscultation, Including Audio-Visual Principles, Second Revised and Enlarged Edition

by J. Scott Butterworth, M.D., Associate Professor of Medicine, New York University Post-graduate Medical School; Maurice R. Chassin, M.D., Associate Professor of Clinical Medicine, New York University Post-graduate Medical School; Robert McGarth, M.D., Associate Professor of Clinical Medicine, New York University Post-graduate Medical School; and Edmund H. Reppert, M.D., Assistant Professor of Clinical Medicine, New York Post-graduate Medical School. Grune and Stratton, Inc., New York. 1960. $6.25

We doctors need to have it repeatedly called to our attention that good history-taking and good physical examination still remain the best means of finding out what is wrong with our patients. This book does just that and will, if carefully studied, further increase our ability to obtain valuable information by physical examination.